

# Rock Products

DEVOTED TO  
Concrete and Manufactured  
Building Materials

Vol. VIII.

CHICAGO, ILL., JANUARY 22, 1909.

No. 7.

## CAROLINA PORTLAND CEMENT COMPANY

We are the largest distributors of Portland Cement, Lime, Plaster, Fire-brick and General Building Material in the Southern States, and have stocks of Standard Brands at all of the Atlantic and Gulf Seaports, and at our interior mills and warehouses, for prompt and economical distribution to all Southern territory. Write for our delivered prices anywhere. Also Southern agents for the "Dehydratine's" waterproofing material. "Universal," "Aeme" and "Electroid" Brands Ready Roofing. Get our prices.

Charleston, S. C. Birmingham, Ala.

Atlanta, Ga. New Orleans, La.

## DEXTER Portland Cement THE NEW STANDARD

Sole Agents SAMUEL H. FRENCH & CO. Philadelphia



## UNION MINING COMPANY

Manufacturers of the Celebrated

### MOUNT SAVAGE FIRE BRICK

GOVERNMENT STANDARD.

DEVOTE a special department to the manufacture of Brick particularly adapted both physically and chemically to

#### Lime Kiln and Cement Kiln Construction

Large stock carried. Prompt shipments made. Write for quotations on Standard and Special shapes, to

#### UNION MINING CO., Mount Savage, Md.

CAPACITY, 60,000 PER DAY.  
ESTABLISHED 1841.



BEST BELT  
FOR GRIFFIN,  
TUBE AND  
BALL MILLS

## ALMA Portland Cement

STANDARD BRAND  
OF  
MIDDLE WEST.

Specially adapted to all Reinforced Concrete and High-Class Work.

Alma Cement Co.  
WELLSTON, OHIO.

## Special Features in This Number.

Report of Cleveland Convention National Association of Cement Users.

Storage Bins of Concrete at the Buffalo Terminal for Grain. Call for the National Builders Supply Association Convention at Louisville.

Final Arrangements for the Great Chicago Cement Show. Ohio Retailers to Meet at Toledo. Southwestern Retailers to Meet at Kansas City.

BEST BELT  
FOR  
DAMP  
PLACES



## "GOLD MEDAL" DYNAMITE

MANUFACTURED BY  
Illinois Powder Mfg. Co.  
Security Bldg.  
St. Louis - - - Missouri

BLASTING POWDER  
AND  
BLASTING SUPPLIES  
Quick Shipments Lowest Prices



## A PERFECT RECORD FOR TEN YEARS

IN ALL KINDS OF CONCRETE WORK

Send for 72 page Illustrated Catalog No. 25

MARQUETTE CEMENT MANUFACTURING CO.  
Marquette Building, Chicago





## Peninsular Portland Cement

Acknowledged by competent Architects and Engineers to be unequalled for fineness, wonderful development of strength and sand carrying capacity.

"THE BEST IS THE CHEAPEST"

Address  
Peninsular Portland Cement Co.  
Jackson, Michigan

## GRAVEL WASHING PLANTS



Stone Crushing, Cement and Power Plants

J. C. Buckbee Company, Engineers, CHICAGO

## "LEHIGH" PORTLAND CEMENT

High Tensile Strength, Finely Ground, Light and Uniform in Color.

MANUFACTURED BY THE



Lehigh Portland  
Cement Co.

ALLEN TOWN, PA

Western Office:  
725 Rockefeller Bldg.,  
CLEVELAND, OHIO

Capacity, 8,000,000 Yearly.

Write for Catalogue



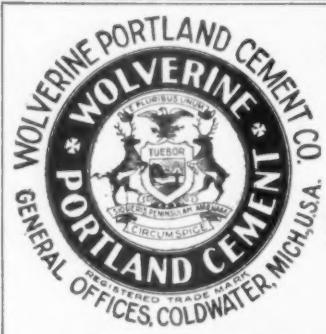
QUALITY THEN  
QUANTITY

—OUR MOTTO—

WRITE FOR PRICES

The Fredonia Portland Cement Co.

FREDONIA, KANSAS



Strength  
Uniformity  
Satisfaction

A Dependable Portland Cement

An Unblemished Record for  
six years speaks for itself

Wolverine Portland Cement Company  
Coldwater, Michigan

W. E. COBEAN, Agent, Chamber of Commerce Building, Chicago

ONE GRADE—ONE BRAND



## Alpha Portland Cement

The Recognized Standard  
American Brand

General Offices: EASTON, PA.

SALES OFFICES:

German National Bk. Bldg., PITTSBURGH. Builders Exchange, BUFFALO  
Builders Exchange, BALTIMORE. Board of Trade Bldg., BOSTON  
Marquette Building, CHICAGO. St. Paul Bldg., NEW YORK.  
Harrison Building, PHILADELPHIA Nat'l Bank Bldg., SAVANNAH, GA.



## CHICAGO "AA"

1,000,000 Barrels Annually

Highest Quality

THE BEST THAT CAN BE MADE

Factory at Oglesby, near La Salle, Ill.

On C. M. & St. P. R. R.  
C. B. & Q. R. R.  
I. C. R. R.

C. R. I. & P. R. R.  
by Switch.

MANUFACTURED BY

CHICAGO PORTLAND CEMENT CO.

No. 108 La Salle Street, CHICAGO, ILL.

## HYDRATED PORTLAND LIME



IS IDEAL FOR

Waterproofing  
Concrete Blocks

SAVES MONEY. TRY IT.

—FOR INFORMATION AND PRICES, WRITE—

CHICKAMAUGA CEMENT CO.,

Sole Manufacturers.

CHATTANOOGA, TENNESSEE

Tell 'em you saw it in ROCK PRODUCTS.

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ia.



# Rock Products

DEVOTED TO  
Concrete and Manufactured  
Building Materials

Volume VIII.

CHICAGO, ILL., JANUARY 22, 1909.

Number 7.

## GRAIN BINS OF CONCRETE.

The Great Buffalo Wheat Terminal at the Eastern Extremity of Lake Transportation is Preparing  
For the Traffic of the Improved Canal to Tidewater.

BUFFALO, N. Y., Jan. 15.—Reinforced concrete construction, as used in the big grain bins that rear themselves along Buffalo's far-stretching water-front testify to a strong endorsement of the slogan assertion of the advocates of concrete that it is "The building material of the age."

The great convention of the N. C. U. A. that was held in this city just one year ago has had a quickening effect locally that is now apparent on every hand. No building work of any kind is now projected without giving concrete construction due consideration at least. The first work of the kind in this district was the great engineering feat of harnessing a portion of Niagara Falls years ago for the purpose of generating electricity with the power so reclaimed.

As such, concrete was held in awe by the masses, but now every prospective builder is seeking to find some benefit or economy for himself in the great industry that is challenging the favorable attention of the greatest minds of men now living.

Buffalo, whose belchings of industrial smoke blackens the lower end of Lake Erie and whose port is the capacious maw for the commerce of all the Great Lakes, has seized upon concrete for its waterfront industries and is clamoring for more of it.

Buffalo, the great receiving grain port at the foot of the lakes and transhipment point for delivery to the Atlantic seaboard, has need for many elevators. Because it is one of the largest milling and malting cities in the land it has need for many grain storage bins for these industries too. All this makes Buffalo a fertile field for the builders of grain bins of reinforced concrete and they are working the field with effect.

Within the past two years, since the completion of the first great concrete bin in Buffalo, bins of reinforced concrete have been built which give an aggregate capacity of more than 3,500,000 bushels and at a cost of several millions of dollars. More than that, another twenty bins are contemplated and plans for them under consideration.

Without a single exception all of the big industries requiring grain storage bins, which have built new plants or additions to plants within the past few years, have adopted reinforced concrete construction for its bins. The wooden bin, of course, is out of the running.

The first big concrete job in Buffalo was the new \$2,000,000 plant of the American Malting Company

(Continued on page 50.)



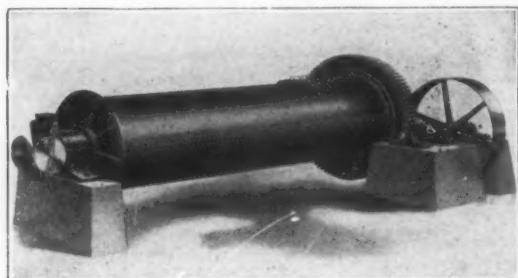
PLANT OF THE AMERICAN MALTING COMPANY, BUFFALO, N. Y., SHOWING THE GREAT CONCRETE GRAIN STORAGE BINS.



# Cement Machinery



We also  
build all sizes of



We build ten regular sizes and the  
**Mammoth McCully Crusher**  
with 27 in., 36 in. and 42 in. openings.

## Tube Mills

For Wet or Dry Grinding in sizes 5 ft., 5½ ft., 6 ft. and 7 ft. in diameter by lengths to suit.

## Ball Tube Mills

For preliminary grinding for  
wet or dry process, eliminate  
screens and consequent shut  
downs.

## Rotary Kilns, Coolers, Dryers

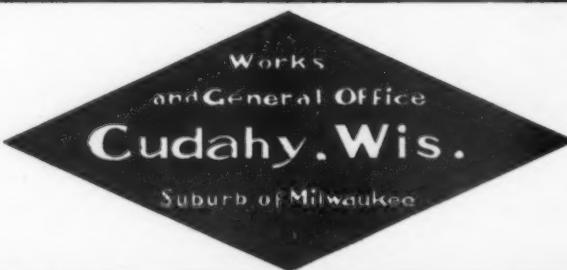
Our designs of Rotary Kilns embrace several  
novel features not found in other makes.

Catalogue No. 7-R tells about them.



### Sales Offices

CHICAGO  
First National Bank Bldg.  
NEW YORK  
115 Broadway  
SALT LAKE CITY



### Sales Offices

SAN FRANCISCO  
Sheldon Building  
EL PASO  
City National Bank Bldg.  
MEXICO CITY

# Five Hundred Simpson Molds Were Sold at the Cleveland Show

They were bought by men who went there to look into their merits and found them just what they wanted. They knew they needed forms for producing cement columns, balustrades, etc., because the demand for that class of work is now so large that they could no longer do without them. The display we made convinced these men at sight that SIMPSON MOLDS satisfy our claim that it is the most complete, symmetrical and simple line of molds in the world. Our task was not to solicit trade but to help purchasers in making selections. We made so much of a display—so many designs—that it offered a great opportunity of making choice.

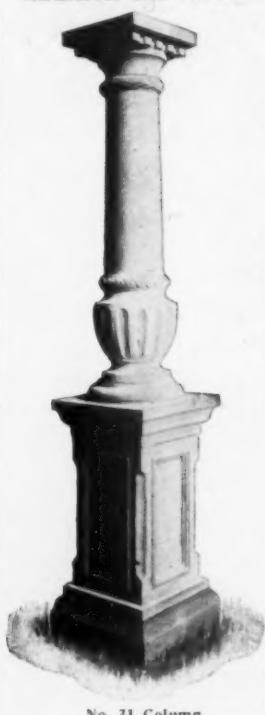
Scores of men who were already using some of the SIMPSON MOLDS were there and ordered more. We were delighted with the reports they brought, not only as to the beautiful work they were doing, but also as to the large business they had done in building Simpson Porches last season. Many of them brought us photographs of finished jobs, which have been added to our large collection. This is fast becoming a fine art gallery of cement work.

## WE WILL BE AT THE CHICAGO SHOW, FEBRUARY 18-24, IN THE COLISEUM

We will show there a variety of columns and other objects which is sure to greatly interest every cement worker who is fortunate enough to be present. We will also show part of our collection of photographs. In addition the ASSOCIATION OF AMERICAN PORTLAND CEMENT MANUFACTURERS has had specially made a series of slides by which they will throw upon their screen at this Chicago Show a large number of pictures showing handsome Simpson Porches. We will be there to personally explain the system by which innumerable designs can be formed from the molds, all so attractive as to be readily salable to home owners.

It is not reasonable to suppose that SIMPSON MOLDS would command such a heavy sale unless they were of the highest excellence, not only as to designs but also as to fine finish and durability. Porch work from them is seen in many hundreds of localities, city, town and country, and the builders of these porches are sending us a steady stream of orders for other designs because they find the special work of this class highly profitable. More than TWENTY THOUSAND SIMPSON MOLDS are already in use, all bought on the following guarantee, which comprises the conditions on which they are ordered and sold:

"The Simpson Molds ordered above are to meet the approval of the purchaser in every respect. Full directions for operating are to be sent with the molds, and they are to produce satisfactory blocks without the use of unusual skill on the part of the operator. If they fail in any respect complaint is to be made at once by the purchaser with statement of what the trouble is. If after further instructions (which will be sent promptly) the trouble still exists, the molds are to be returned at the expense of The Simpson Cement Mold Co., to be replaced or paid for in full. The above applies to one or more molds or to all of them. A duplicate of this is retained by the purchaser."



No. 31 Column  
THE LATEST.

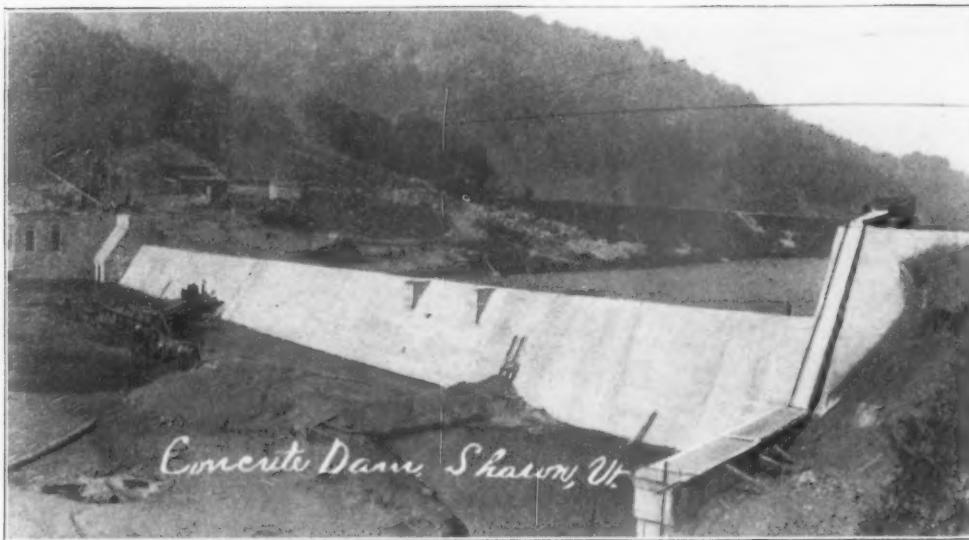
Our richly illustrated CONCRETE PORCH BOOK, which gives details of molds for making one hundred and thirty designs and sizes of ornamental blocks, is yours for the asking if you will send us your business card or address us on your letterhead—showing that you are interested as a cement worker, contractor, architect, builders' supply man or lumber dealer. It is too elaborate to send to those who wish to merely gratify idle curiosity. But we will send it to anyone for ten cents, which does not cover cost of publication.

## The Simpson Cement Mold Co.

498 North High Street

COLUMBUS, OHIO

# Dams, Power Houses



# Pennsylvania Portland Used Exclusively

Unexcelled In Quality



Write for New Booklet Showing many other Important Works

Pennsylvania Cement Company  
Havemeyer Building NEW YORK  
Mills: BATH, PA.

# ATLAS PORTLAND CEMENT

Makes The Best Concrete.

FROM "CONCRETE CONSTRUCTION  
ABOUT THE HOME AND ON THE FARM"



FROM "CONCRETE COUNTRY  
RESIDENCES"

**GOOD  
MATERIAL**  

---

**IS THE KEYNOTE  
OF SUCCESS  
IN THE CONCRETE  
BUSINESS**



The Cement is the smallest yet most important part of the concrete. Start right by buying ATLAS—the best portland cement manufactured. Unless you get good cement, your Labor, Time and Trouble count for nothing.

ATLAS PORTLAND CEMENT is manufactured from the finest raw material under expert supervision day and night. It is recognized as the Standard American Brand and is guaranteed always uniform, absolutely pure and unadulterated.

It is the cement bought by the United States Government for the construction of the Panama Canal.

We manufacture but one grade—the same for everybody.

**BOOKS ON CONCRETE CONSTRUCTION—FREE UPON REQUEST**

For the Suburbanite and Farmer.  
"CONCRETE CONSTRUCTION ABOUT THE HOME AND ON THE FARM." Postage 4c.

For the Manufacturer and Merchant,  
"REINFORCED CONCRETE IN FACTORY CONSTRUCTION." Postage 10c.

For the Mechanic and Artisan,  
"CONCRETE COTTAGES." Postage 1c. For the Home Builder and Investor,  
"CONCRETE COUNTRY RESIDENCES." Postage 25c.

## The Atlas Portland Cement Co.

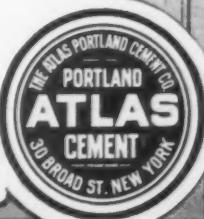
DEPARTMENT [U]

30 Broad St.

NEW YORK

→ NONE JUST AS GOOD

NONE JUST AS GOOD →



# VALVE BAG ECONOMY

—is what is helping the users of the Valve Bagging System make more money than the other fellows. They make it by not spending it. In times of low prices, this is exceedingly gratifying.

Valve bag users are saved so much of the worry and disagreeable points of the hydrated lime business that that alone would induce them to use the system even if there were no other good points, such as saving of labor and expense and time.

The Valve Bagging System is within the grasp of all manufacturers of hydrated lime and those who have not yet installed it and those who contemplate going into the business, owe it to themselves to look into the system.

**Within the last two months—three manufacturers have ordered the System for their plants**

We are at your service and will be pleased to talk it over thoroughly with you at any time.

Let us explain it. The actual proof of our claims is in the fact that so many of the present manufacturers have used the system so long and there is no likelihood of their ever doing without it.

**WE'LL BE AT THE NATIONAL LIME MEETING, WILL YOU?**

**THE URSCHEL-BATES VALVE BAG COMPANY  
TOLEDO, OHIO**



**CHARLES L. JOHNSON**  
Sales Manager  
Castalia, Ohio

**High Tensile Strength  
Light Uniform Color  
FINELY GROUND**

**Castalia Portland Cement Co.  
PITTSBURG, PENNSYLVANIA**

Plant: Castalia, Erie County, Ohio

Capacity: 2,000 Barrels Daily

**OWL CEMENT  
GERMAN-AMERICAN  
PORTLAND CEMENT WORKS**



"Uses of Portland Cement."

"A Cement City."

"A Test of Large Re-Inforced Concrete Beams for the Illinois Central Railroad."

Above pamphlets mailed free upon request.

**E. L. COX, Gen'l Sales Agent  
Marquette Building  
Chicago, Illinois**

Works:  
La Salle, Ill.

**Red Ring Portland Cement**



Manufacturers: Sales Office Liggett Bldg. St. Louis

**Can Be Used With Absolute Safety**

Hundreds of users have testified to the excellent results obtained.



Manufactured and Guaranteed by

**Omega Portland Cement Company**  
Jonesville, Michigan

Tell 'em you saw it in **ROCK PRODUCTS**.

**FOR SALE!**

**PORTLAND CEMENT MILL**

In Canada, 80 miles north of Toronto on the Grand Trunk Railway

**Electric Power Plant (1000 h.p.) generated by waterfall  
(Could be Increased to 2000 h.p. at small cost)**

**The Plant consists of the following valuable cement properties and magnificent equipment.**

The brand, high reputation and good will of the Raven Lake Portland Cement Company, pronounced by experts to be the best cement made in Canada and so established by two season's operations.

Parcel 1.—Part of the land covered by waters of Raven Lake, in the township of Bexley, about 3.54 acres.

Parcel 2.—Parts of lots 2 and 3, in the 3rd concession of the township of Bexley, 12½ acres.

Parcel 3.—The east part of the N. half of lot 2, in the 2nd concession of the township of Bexley, containing seven acres, more or less.

Parcel 4.—The south half of lot 2, in the 2nd concession of Bexley, 100 acres, more or less.

Parcel 5.—The mill site on and under the waters of the Gull River, commonly called Elliot's Falls, as shown upon a plan thereof made by Provincial Land Surveyor George A. Stewart, dated the 17th November, 1860, of record in the Department of Crown Lands, and named on said plan "Snyder's Mill Site." The lands under the water, together with the island in the said river, containing 16 acres more or less.

Parcel 6.—Mill Site, being parts of lot No. 9, in the 11th concession of the township of Laxton, and the rights to the water power on the Gull River adjacent to the said lands.

Parcel 7.—Lot B, concession A, township of Somerville, 62 acres, more or less.

Parcel 8.—Lot A, in concession B, in the township of Somerville, 40 acres, more or less.

Parcel 9.—Mill Site, commonly called "McLaughlin's Mill Site," on Gull River, as shown on a plan of survey by George A. Stewart, P. L. S., dated November 17, 1860, of record in the Crown Lands Department; also lot lettered "D" concession A, of the said township of Somerville, 119 acres, more or less; also that part of lot 7, in the 11th concession of Laxton, lying between the Cameron road and Gull River; also that portion of lot 6 in the said 11th concession of Laxton marked on the plan of the village of Norland filed in the Registry Office of the county of Victoria, as "Mill Reserve," save and except a strip along the front of said Mill Reserve facing Queen street, and having perpendicular depth of ten rods, and extending from the road to the Mill Site, commonly called Mill street, to the southerly limit of the said Mill Reserve, also including that portion of said lot 6 between the Cameron road and the river, lying north of the village lot (Morrison street), including all rights appurtenant to the said Mill Site and all rights to flood and overflow any land by the dam at the said Mill Site.

Also the pole and wire line extending from Elliot's Falls to the Factory, including the poles, wire and all rights to erect and maintain said pole and wire line. The railway sidings of the said Company now used,

**THE EQUIPMENT.**

It is a four-kiln, wet process plant, marl and clay being used as raw materials.

There are four rotary kilns, each 60 feet long, 6 feet in diameter. The kilns are fed by four 5 in. by 8 in. plunger pumps. The pulverized coal is carried to the kilns by means of compressed air and the feed regulated by variable speeders. The rotation of the kilns is also regulated by 4 Reeve's variable speeders.

The Coal Grinding Apparatus consists of one Cummer Dryer and 1 Bonnot Rotary Dryer, 1 Jeffrey Crusher, 1 Bonnot Tube-mill, 5 ft. by 22 ft., with all the necessary elevators and conveyors.

Clinker Grinding Machinery, 1 Smidt

Will be sold outright at very low figure or operated with investor in part provided such party is a cement maker.

Communicate with

**PORTLAND CEMENT MILL**

Care of The IMPERIAL PLASTER COMPANY

Toronto, Ont.

Canada

**The Ironton Portland Cement Co.**

Manufacturers of the

Celebrated Limestone Brand of Portland Cement

Used by the Railroads in Kentucky, Ohio, West Virginia, and Virginia during the past five years.

Cement as finely ground as any on the market.

Guaranteed to pass all the standard specifications.

Plant located at Ironton, O., within easy access to seven States, namely, Ohio, Indiana, Kentucky, West Virginia, Virginia, Tennessee and North Carolina.

Shipments via the N. & W. Ry., C. & O. Ry., C. H. & D. Ry., D. T. & I. Ry., or Ohio River.

Write for Prices



**The Ironton Portland Cement Co.**

Ironton, Ohio

CAPACITY  
700,000  
BARRELS  
ANNUALLY

OFFICE  
ALLENTOWN, PA.



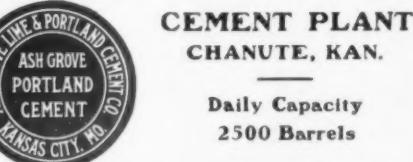
STANDARD  
SPECIFICA-  
TIONS  
GUARANTEED

**Newaygo Portland Cement Co.**

Sales Office: Michigan Trust Building

**GRAND RAPIDS, MICH.**

Write us for prices. Send us your orders.



CEMENT PLANT  
CHANUTE, KAN.

Daily Capacity  
2500 Barrels



**ASH GROVE LIME &  
PORTLAND CEMENT CO.**  
KANSAS CITY, MO.

MAKER OF

**Ash Grove Portland Cement**  
SUPERFINE

**High Grade White Lime**

"THE BEST ON EARTH"

WE FURNISH LIME IN "Unbustible" Steel Hoop Barrels



LIME WORKS

Ash Grove  
Galloway  
Everton  
Carthage  
Greenfield

Mo.  
Daily Capacity 2500 Barrels



***The Quality that Never Fails***

**SUNFLOWER  
PORTLAND CEMENT**

Three Great Plants, at IOLA and INDEPENDENCE, KANSAS, making  
Perfect Cement, with Unsurpassed Shipping Facilities,  
Guarantee Prompt Service.

YOUR CEMENT NEEDS CAN BE SUPPLIED EFFICIENTLY

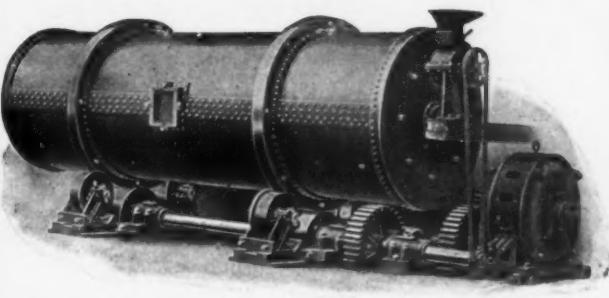
*Daily Capacity of 8,000 Barrels. Write today to*

**United Kansas Portland Cement Company**

General Sales Office: 811 Commerce Building, KANSAS CITY, MO.

Tell 'em you saw it in ROCK PRODUCTS.

**ALSING TUBE MILLS**  
**THE BEST for SAND LIME BRICK**



**Ores, Minerals, Chemicals, Cement, Etc.**

A saving of 30% in power over any other tube mill guaranteed. The only machine that will produce Perfect Sand Lime Bricks.

In use in the most modern plant (The Cranford Paving Co., Washington, D. C.)

**J. R. Alsing Engineering Co.**

Incorporated 1885

R. F. ABBE, Pres't

Founded 1869

136 Liberty Street, New York



**Strength**  
**Durability**  
**Permanence**

Not only laboratory tests, but results in actual work prove the high grade quality of

**Northampton**  
**Portland Cement**

Especially adapted for Cement Blocks, Sidewalks and all forms of concrete and re-inforced concrete construction.

**Northampton Portland Cement Co.**

Main Office and Works  
 Stockertown, Pa.

The following Cement Companies advertising in this paper are users of the

**"BATES SYSTEM"**  
 OF PACKING

Bonner Portland Cement Co.  
 Castalia Portland Cement Co.  
 Dexter Portland Cement Co.  
 Edison Portland Cement Co.  
 Fredonia Portland Cement Co.  
 Ironton Portland Cement Co.  
 Newaygo Portland Cement Co.  
 Penn-Allen Portland Cement Co.  
 Superior Portland Cement Co.  
 United Kansas Portland Cement Co.

WRITE US

**BATES VALVE BAG COMPANY**  
 CLEVELAND, OHIO



CONCRETE SEWER, WILMINGTON, DEL.  
 1800 feet 36" diameter; 1300 ft. 30" diameter

ALEXANDER J. TAYLOR, Engineer

**Nazareth Portland Cement**

**CHARLES WARNER COMPANY**

Executive Offices, Wilmington, Del.

Land Title Building  
 Philadelphia

1 Madison Avenue  
 New York

161 Devonshire Street  
 Boston

Tell 'em you saw it in **ROCK PRODUCTS**



The New Models 10 and 11

# Remington

HAVE  
Every merit that Remington Typewriters have always had.  
Every merit that **any** typewriter has ever had.  
New and revolutionary improvements which **no** typewriter has ever had.

Model 10, with Column Selector  
Model 11, with Built-in Tabulator

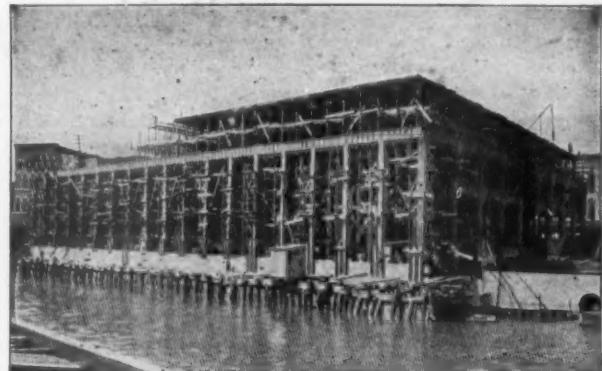
Remington Typewriter Company  
(Incorporated)  
154 Wabash Ave.  
Chicago



## Medusa Water-Proof Compound

Makes all Concrete Watertight

The foundations and floor in basement, all of cement, in the Bostwick-Braun warehouse, Toledo, O., here illustrated, contain Medusa. Write for pamphlet describing its use.



Write for samples of our Pure White Portland Cement.  
Do not accept a substitute, as there are many adulterated compounds on the market.

**Sandusky Portland Cement Co.**  
SANDUSKY, OHIO



## "CONTINENTAL" DUMP CARS

Our Dump Cars are used on most of the large rock and dirt moving operations throughout the United States and Canada.

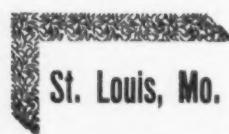
**Continental Car and Equipment Co.**  
Works: Highland Park, Louisville, Ky.  
New York, 17 Battery Place



## CHARLES W. GOETZ LIME & CEMENT CO.

MANUFACTURERS OF AND DEALERS IN

Glenwood Lime, Banner  
Brand Louisville Cement,  
Portland Cements and  
Building Materials.



## FOWLER & PAY

Brown Hydraulic Lime, Austin Hydraulic  
Cement, Jasper Wall Plaster, Brick, Stone.

CEMENT WORKS: Austin, Minn.  
PLASTER MILL: Ft. Dodge, Iowa.  
WAREHOUSE: Minnesota Transfer.

**MANKATO, MINN.**

Flint Pebbles and Buhr Stone  
Linings.

French Buhr Mill Stones,  
Solids and Built.

**J. M. Charles,**  
Sole Agent.

59 Pearl St., NEW YORK, N. Y.

Bolting Cloths, Dufour Swiss  
Silk, Fine Wire Cloth.

Mixing and Sifting  
Machinery.

**NEW JERSEY LIME CO.**



HAMBURG,  
N.J. MANUFACTURERS  
OF

HAMBURG, N. J.

**BUILDERS' LIME** **CHEMICAL LIME**  
HYDRATED LIME

Tell 'em you saw it in ROCK PRODUCTS.

# The Kelley Island Lime and Transport Co.

CLEVELAND, OHIO.

Tiger Brand White Rock Finish the best known and smoothest working Hydrated Lime manufactured.

WRITE FOR PRICES

THE LARGEST LIME MANUFACTURERS IN THE WORLD.

## The Ohio and Western Lime Company

WORKS AT  
Huntington, Indiana  
Marion, O.  
Gibsonburg, Ohio  
Fostoria, Ohio  
Sugar Ridge, Ohio  
Tiffin, Ohio  
Genoa, Ohio  
Limestone, Ohio  
Lime City, Ohio  
Portage, Ohio  
Lucky, Ohio  
Bedford, Ind.

MANUFACTURERS OF AND WHOLESALE DEALERS IN

Ohio White Finishing Lime, Ground Lime,  
Lump Lime, Fertilizer, Hydrate Lime,  
Cement, Plaster, Hair, Etc., Etc.

Capacity  
8000 Barrels  
Per Day

MAIN OFFICE: Huntington, Ind. Branch Offices: Marion, O. and Toledo, O., 209-210 Chamber of Commerce Bldg.



## Excelsior Hydrated Lime

A PRODUCT OF MERIT.

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Difficulties can be Simplified and Overcome  
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can be made more waterproof, cheaper, and of lighter color by the use of from 20 to 40% of pure hydrate free from magnesia. This substitutes the same amount of cement and does not impair the strength of the block.

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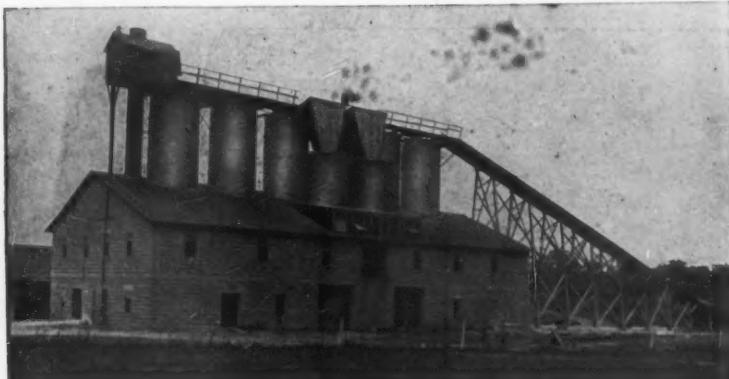
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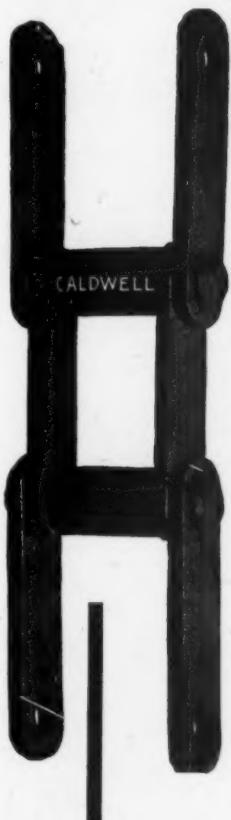
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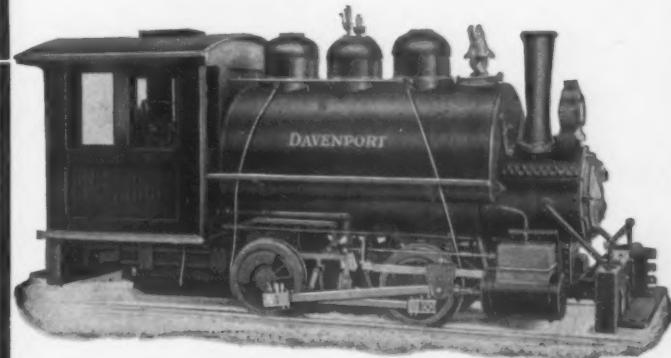
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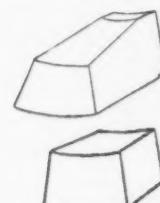
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Send for Samples.  
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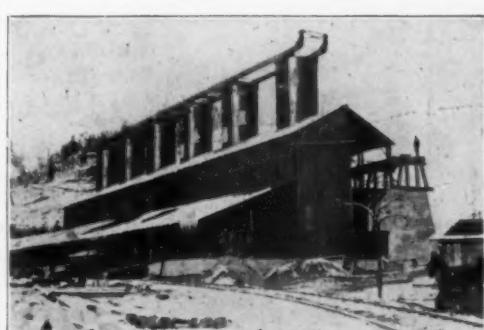
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# ROCK PRODUCTS

ESTABLISHED IN LOUISVILLE, KY., 1902.

DEVOTED TO CONCRETE AND MANUFACTURED BUILDING MATERIALS.

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Communications on subjects of interest to any branch of the stone industry are solicited and will be paid for if available.

Every reader is invited to make the office of Rock Products his headquarters while in Chicago. Editorial and advertising copy should reach this office at least five days preceding publication date.

## TERMS OF ANNUAL SUBSCRIPTION.

In the United States and Possessions and Mexico.....	\$1.00
In the Dominion of Canada and all Countries in the Postal Union.....	1.50
Subscriptions are payable in advance, and in default of written orders to the contrary, are continued at our option.	
Advertising rates furnished on application.	

Entered as second-class matter July 2, 1907, at the Postoffice at Chicago, Illinois, under Act of March 3, 1879.

Retailers generally are carrying very light stocks over from last season, and heavy booking of orders is the present activity.

Cement users have a standing invitation to use the information department of Rock Products. The profits that many have realized are open to all.

Some retailers of supplies make more profit on the specialties they handle than they do on staple lines. Our ad pages tell about the best and most reliable of these.

Nineteen nine starts with more confidence and enthusiasm than could be scraped up with a curry-comb one years ago. Now does this not mean something to all of us?

The contractors report oceans of work ready to start, and more rush orders than they have ever known. Now why doesn't that look good to people who are interested in building materials?

While the lawmakers villify one another their salaries go on just the same and the worst of it all is the fact that the nice young lady, known to artists as Miss Progress, sits awaiting with tears of impatience in her bright eyes.

In all the agitation of concrete and its adaptation to various uses, there is none so great—none so important and far reaching for the good of the human family at large—as that of providing a safe, sanitary and economic home. That is a home within the reach of the thrifty workingman. The number of people who can afford to inhabit palaces will always be few, and to such the selection and cost of materials looks like insignificant details. Not so with the homes of the millions, who invariably choose the best that they can afford. Concrete materials have been developed at least to the point where the best is the cheapest. A house that cannot be burned can now be built at lower cost than the same house can be constructed of lumber. This is now demonstrated. It is the greatest achievement of all the ages. As soon as all the people realize all the advantages of fireproof and sanitary building materials the volume of consumption will be stupendous.

The National Lime Manufacturers' Association is the most representative body of men that could be selected from that industry. Their coming convention at Pittsburg carries with it a broad invitation to every lime manufacturer to come and take part. Read the full announcement on another page.

The traffic associations of the railroads have held their annual meetings to revise classifications and make the movement of freight more intelligible and consequently more profitable to the carriers and at the same time more efficient to the shippers. If there was any improvement in the classification upon building materials, it was not of a kind so any one could notice it. Yet there is plenty of room for improvement in many directions. Would it not be a good plan to have a well selected committee of building material men from the National Builders' Supply Association to canvass the matter of classification with the traffic departments of the railroads for the purpose of giving the benefit of their knowledge and experience to these men? The railroads want the best obtainable service, and to this end will be glad to adopt improvements.

Hard wall plaster is worthy of careful practical study. There is a whole field as yet only partially developed, where the artist-plasterer could operate with great profit. Foreigners, particularly in Italy and France, have long learned the practice of simple as well as elaborate decoration with plaster of Paris and stucco. The elegancies of civilization are always expressed by the character of the surroundings that come nearest to the people. There is not enough of the pure art sentiment in the homes of the people—all the people. There is a moral influence involved in the personality of men which is reflected from their environments. Beautiful lines and combinations provoke noble and pure thoughts, and thought controls the whole world of action. In the plasterers' craft there is a wider field for real usefulness, and consequently rich reward, than almost any other. Yet the number of young men qualified by education and taste to make a great success is very small indeed. They all pass by on the other side.

The rock crushing business has grown to mighty proportions in the last few years, partly on account of the widespread good roads agitation and the remarkable growth of the concrete industry. Railroad ballast sizes are no longer the chief and only product, but that big pile of waste screenings has become the chief factor of profit. Orders for "screenings to dust" are more steady and reliable than any other, and it will not be long before many large operations will be devoted entirely to the production of fine material exclusively. As soon as all the people learn to build even small cottages of concrete, as well as barns and larger buildings, every rock crusher will have more than he can do. ROCK PRODUCTS is working systematically to this end and the crusher men everywhere can help a whole lot by simply boosting our efforts at every opportunity. This is a much larger business proposition and means a whole lot more to the crusher operator than running after transitory engineering activities within shipping distance from the quarry. Each man could help to boost in his own locality by recommending this journal to prospective builders. We keep an information bureau for this purpose, and it will help your own business eventually. Just give the man your copy of the paper and tell him he can get all the information he needs by applying for it.

## ROCK PRODUCTS

## EDITORIAL CHAT

Fred W. Cubbins, of the Cubbins Brick Company, Memphis, Tenn., was a recent Chicago visitor. Fred says the supply business has been eclipsed by his brick operations in North Memphis. He is a born brick-maker.

J. C. Van Doorn, the Northwestern sales manager of the Universal Portland Cement Company, and also secretary of the Northwestern Cement Products Association, is full of business and says the Northwestern show will be the banner one of the year.

Concrete structural tile, made of wet mixed materials, and cast in a steam heated mold gives the answer to most of the riddles of the past. It offers a means for building a light waterproof and fire-proof wall. It has the only plastering surface suitable for exterior finish, which has long been sought by the architects to get the advantage of versatility of designing of a kind that can be made by the route of plastering alone. Not only is the surface for plastering there but the further advantage of having the outer mortar become an integral part of the wall itself, and not stuck to it, is also accomplished. It expresses a material that will make a wall as low in cost as lumber, because it gives the maximum of product with the minimum of material. It makes a complete concrete house possible from the footings to the roof.

At the cement users' convention last week Rock Products happened to meet W. S. Lougee, of Cleveland, and C. C. Knox, of Youngstown, the building inspectors of their respective cities, and, by the way, the most progressive, practical and able officers in such capacity to be found in the country. They carefully examined every educational feature. It is largely due to these gentlemen the leading position in concrete that their cities occupy.

Youngstown is the first city of the land in concrete work for the homes of the people. Cleveland ranks somewhere near the top for large factories and store-houses in concrete.

Martin T. Roche, president of the Northwestern Cement Products show, at Minneapolis, in March, could not attend the Cleveland meeting because Martin, Jr., came to make a continuous engagement with his proud papa on January 12.

According to the report of the State Highway Commissioner of Pennsylvania, 325 miles of new roads were built during the past year at a cost of \$3,000,000 or more.

The state of Washington is erecting a Good Roads Building on the exhibition grounds of the Alaska-Yukon-Pacific Exposition, which opens in Seattle, June 1, in which lectures on road building and maintenance with lantern-slide views will be given each day. These lectures will be in the auditorium of the building, while outside all the different kinds of roads and pavements will be placed so that it can be seen how each stands the wear and use. After the exhibition is over the building will be used by the good roads department of the State University.

The Bellevue Stone Company, Bellevue, O., have the contract for the crushed stone for concrete aggregate in the Rocky river bridge, Cleveland, O.

This company recently issued a little booklet, "The Rock of Ages," a short dissertation apropos limestone for practical purposes, in which they give several views of their plant. This is a very useful little pamphlet and should be in the hands of every user of building stone, crushed stone, etc.

E. S. Meade, who was formerly connected with the La Crosse Stone Company, La Crosse, Wis., has severed his connection with that firm and gone into business for himself. He has begun operations at the old Jacob Arenz quarry and has installed a stone crusher.

The large crushing plant of the St. Helen's Quarry Company is located about thirty miles from Portland, Ore., on the Willamette river, from which they furnish an excellent quality of crushed rock for Portland contractors. The plant has a capacity of 500 or more cubic yards per day and in addition to crushed rock the company handles paving blocks, sewer blocks, gutter blocks and building stone. They

have large rock bunkers in Portland on both sides of the river, where all sizes of crushed rock, graded according to the usual requirements of construction, are kept on hand, as well as a large supply of paving blocks. The city offices of the company are at 1 Front Street, Portland.

Huntington, Ind., capitalists, including Peter Martin, Edwin Martin, Julius Martin, Theodore Torberg, Henry Keefer and John Alles are putting \$125,000 into a stone crushing plant at Logansport, the manufacture of lime being a possibility in a few years. Peter Martin is general manager of the Ohio & Western Lime Company, with thirty-six plants in the central states, but enters the new company as a separate enterprise.

Gold Williams, of the Marquette Cement Manufacturing Company, was telling Rock Products' representative a few days ago a story illustrative of the Marquette spirit. Saturday, as every one knows, is a half-holiday in Chicago, except for few scribes. But this is outside the story. Mr. Williams was enjoying his weekly good lunch in the bosom of his family, a number of Saturdays ago, when the 'phone rang, and he was informed that the shaft and bushing of their largest crusher had broken down and that he must express at once the needed parts to La Salle. As these needed parts only weighed 1,600 pounds, the express company saw something in it for them. The machinery people were immediately gotten in connection with, luncheon being broken off in its midst; but no one except the office boy was on the job at the other end of the wire. But Williams, by numerous 'phonings, finally succeeded in locating a master mechanic at his home and ordered parts expressed at once. Remember, the Marquette runs day and night,

it never shuts down, nothing must interfere. But it was said to be impossible to express what was required before Sunday morning, and on Sunday morning, bright and early, shipment was made. But the same afternoon of that same Sunday, however, the big crusher was pounding away again like new. Twenty-four hours shut down for once anyhow. We wonder how many firms would have succeeded in resuming operations as promptly.

Heber Harder, the Oklahoma City, Okla., representative of the Oklahoma Portland Cement Company, is one of the aggressive young men of that city. Mr. Harder is also the head of the Harder Company, large real estate agents in that state, and is largely instrumental in many of the best real estate transfers of that city. He is very enthusiastic over the future of the new state, and though he has been there for but four years, he is considered quite an old settler. His pleasing personality has made for him many friends and he enjoys a large acquaintance. His energy has landed many good sized cement orders for his company, the latest and most important being for ten miles of street work which will require about 60,000 barrels of "O. K." cement.

John Dunlop, of Madison, Wis., the well-known representative of the Marquette Cement Manufacturing Company, called on Rock Products when he was in Chicago recently. Mr. Dunlop has had a very good business and is very enthusiastic on the cement conditions in Wisconsin. Through his efforts there has been a large quantity of Marquette specified for public and municipal work, among which may be mentioned the cement for the heating plant as well as the floors of the wings of the new state capitol building at Madison.



THE GENIUS OF THE CONCRETE EXPOSITIONS, BY MARTIN T. ROCHE, PRESIDENT OF THE NORTHWESTERN CEMENT PRODUCTS ASSOCIATION.

President Richard L. Humphrey covered himself with glory. The convention was the most successful ever held in this country from every point of view and no little of this success is attributable to the matchless energy displayed by Mr. Humphrey in marshalling his forces. The four corners of the earth were garnered in an effort to provide the latest achievements in concrete. The papers which were read showed careful study on the part of the man who selected the men for that purpose. They were the leaders in the industry, and no one but President Humphrey could have secured them. As a presiding officer he was cool, calm and deliberate. Always a master of the situation, he interjected from time to time pleasantries which enlivened what would have been at times a dull part of the program. The interest was keen from the beginning and this reflected no little credit on the presiding officer, as it is not every man who can hold an audience interested all of the time. He has endeared himself to everyone connected with the association to such an extent that no one else was even thought of to take his place. President Humphrey's life-work has not been in vain. The entire industry owes much to him for his indefatigable energy in keeping alive the interest in the association work.

If you chance to know someone who intends to build a summer cottage by the seaside, in the mountains, or in the lake country, don't hesitate to remind him that safety from fire is the first requisite. No matter what the outlay in money may be, nor how elaborate or how modest, it is dedicated to love and affection, in the sweetest sentiment of modern family life. To jeopardize the lives of those most dear in an isolated wooden house is unpardonable carelessness. Here is where the cement interests and concrete men generally can do some good missionary work—more important than any other in fact. If you want to help just send ROCK PRODUCTS the names of people you know who expect to put up summer cottages this year.

Convention after convention! Who can help being a conventionite? Observe that all the live wires in American business life are the members of trade associations. If you don't belong to the association that represents your line, wake up, gentle reader, for there is more coming to you than you are getting. The good things of this life of busy endeavor will not be brought to you on a silver tray, but you will have to go up to the trough and help yourself. So stuff a shirt and collar into that old gripsack and get to the convention. It is high time that you began to learn the motions of the brightest men in your line of trade.

R. C. Patterson, president and general manager of the Fredonia Portland Cement Company, Fredonia, Kan., was recently seen by a representative of ROCK PRODUCTS. Mr. Patterson says that the outlook in this section is good for the cement business, as there is plenty of concrete work to be taken care of this year. The Grasshopper brand is growing in popularity all the time.

The stockholders of the American Molding Sand Company, Columbus, Ohio, recently incorporated, have elected F. A. Downward, president; V. M. George, vice-president; Charles G. Rose, secretary and treasurer. The company operates sand pits in several sections of the state, furnishing sand to stove and other foundries and furnaces. The offices of the company are in North High Street and its operations cover a wide trade territory.

J. E. Baker, the well known quarryman, of Martinsburg, W. Va., has purchased eighteen acres of good quarry land at Williamson. The quarry has never been developed and Mr. Baker will put a large force of men to work at an early date.

Charles C. Kritzer, of the Kritzer Company, Chicago, who is known to fame as the practical lime hydrating specialist *par excellence*, is a lucky man. His wide popularity is part of this. Just now he is receiving congratulations because he is the proud father of a new daughter. Miss Edith M. Kritzer is the sweetest Christmas gift that Charley ever received.

Charles D. Watson, of the Standard Building Construction Company, Pittsburgh, Pa., has severed his connections with this company and will hereafter do consulting engineering work, making a specialty of designs of plants, equipment, etc., for the manufacture of cement products. He is now designing a plant for the Onondaga Litholite Company, of Syracuse, N. Y., and the Roman Stone Company, of Albany, contracts for which will soon be let. The former will probably be the most complete and modern plant of its kind in the United States.

We are in receipt of the following letter from J. C. Van Doorn, Northwestern Sales Agent of the Universal Portland Cement Company, Minneapolis, Minn.

"The Christmas number of your paper, sent out with Christmas greeting, is a beauty and, as is always the case, gives much valuable information with a few side lights on all of your friends.

"It just struck me to compliment you on your good paper; at the same time I wish to extend to you my best wishes for a very happy and prosperous New Year."

The following is an extract from a letter received from W. S. McLean, manager of the Hydrated Lime department, The Holmes Lime Company, Ltd., San Francisco, Cal.:

"The writer takes great pleasure in reading ROCK PRODUCTS and in a business way will say that we look upon it as our 'Family Bible.' We wish you a prosperous and successful New Year."

We present in this issue a faithful likeness of Fredrick E. Paulson, known as the 'hustlingest' cement salesman in the country. Mr. Paulson has been connected with the cement industry from the time when the memory of man runneth not. He is known from one end of the country to the other. No man keeps more thoroughly in touch with every phase of the business than he. He has captured many of the largest contracts in this country. If you will notice closely you will see that the hair



FREDRICK E. PAULSON,  
Traffic Manager, Lehigh Portland Cement Company,  
Indianapolis, Ind.

has been rubbed off of both sides of his forehead. This, Mr. Paulson explains, is from an early habit of rubbing his head during the time when he was studying hard. Mr. Paulson is a Swede and is proud of it.

One of the ROCK PRODUCTS men came into Kansas City on the Frisco road one morning recently and managed to get into conversation with the only other passenger on the sleeper. It soon developed that he was G. B. Hamer, who is one of the sales force of the Colorado Portland Cement Company, Denver, Col. Mr. Hamer says the West is developing into a wonderful concrete country and all the new buildings of any size as well as smaller construction work uses its quota of concrete. A new country developing as this is and having the natural resources takes readily to cement, and they look forward to a big year in 1909.

#### Hydrated Lime Growing in Favor.

The plastering trade naturally compare hydrated lime with the putty which they make themselves. Their objections to hydrated lime has been that it works harder than the putty made in the old manner of soaking for several days, that thereby it takes much more labor and at the same time and for the same reason it causes a much thicker coat of finish to be used than is necessary, and hence takes more material than should be used.

The Wisconsin Lime and Cement Company, whose offices are in the Chamber of Commerce Building, Chicago, claim to have solved the problem. They say

that they have by far the easiest working finishing hydrated lime that has ever been produced. They make no secret of how this result is obtained as they have contracted for the entire output of the supply, and if manufactured in the same manner for the hydrated lime alone, the price would be prohibitive.

In making carbonic acid gas as used in soda fountains, etc., large quantities of lime are produced, which the Wisconsin Lime and Cement Company discovered had just the properties they were looking for, and immediately made arrangements to have the entire product hydrated for them, and they are now placing it on the market with the result that their trade in that commodity has more than trebled in the past three months.

The contractors who have used it are enthusiastic over the results they obtain from it, claiming that the convenience, economy in labor and saving in amount used, now make it possible for them to use it exclusively in place of home-made putty for finishing. It is put up only in 100-pound cloth sacks.

We would advise those interested in plastering to investigate this "new thing" and convince themselves as to the merits of the Wisconsin Lime and Cement Company's claims.

#### Big Gain in Building.

Building in the leading cities for December shows a gain of 67 per cent over the corresponding period a year ago. Permits were taken out in forty cities in December, according to official reports to *Construction News*, for the construction of 9,763 buildings, involving a total estimated cost of \$39,244,274 against 5,346 buildings aggregating in cost \$23,417,797 for the same month a year ago, an increase of 4,390 buildings and \$15,826,477 in cost, or 67 per cent. In connection with this heavy gain it should be remembered that December a year ago was the second month from the date of the beginning of the financial flurry and the figures for the month were on a low level, but that as it may, the building industry is now entering upon a new era which will undoubtedly establish new high records, and as long as it is for the purpose of providing for actual pressing needs and is devoid of speculation there is no occasion for sounding a note of alarm.

In the list of forty cities referred to, only four show decreases. They vary from 1 to 49 per cent, while thirty-six cities are conspicuous because of the enormous increases, ranging from 12 to 456 per cent, New York City, including Manhattan and the Bronx, showing a gain of 202 per cent. The figures in detail are as follows:

	No.	No.			
Town—	Bldgs.	Est. Cost.	Bldgs.	Est. Cost.	Gain.
New York*	251	\$ 9,443,010	127	\$ 3,110,100	203
Chicago	724	5,290,450	246	5,383,300	11
Brooklyn	755	3,733,590	309	1,984,324	88
St. Louis	579	1,386,450	302	390,548	247
Philadelphia	977	2,052,855	485	901,043	127
San Francisco	446	2,043,783		3,910,085	148
Denver	174	1,029,100	105	205,365	401
Detroit	359	1,024,800	238	478,800	114
Cleveland	387	904,857	268	227,891	297
Portland	278	960,075	138	319,245	200
St. Paul	224	887,124	137	519,476	71
Milwaukee	168	831,777	86	271,715	207
Baltimore	303	820,245	145	225,270	266
Washington	363	725,875	261	395,034	84
Minneapolis	244	723,170	169	403,390	79
Kansas City	276	676,070	161	164,530	310
Los Angeles	581	667,620	400	403,987	65
Buffalo	193	629,000	159	493,600	28
Pittsburg	195	596,557	155	1,189,165	149
Spokane	178	515,495	89	102,695	402
Salt Lake City	68	471,000	31	113,000	316
Portland	92	378,625	66	279,775	35
Rochester	131	357,635	71	143,145	149
Cincinnati	225	350,630	126	218,237	60
Tacoma	158	339,753	118	229,860	48
Duluth	63	333,150	70	61,670	440
Memphis	172	274,612	95	245,992	12
New Orleans	...	272,273	...	231,435	18
Worcester	65	219,330	47	71,055	208
Atlanta	228	170,822	188	126,360	35
Birmingham	112	165,235	38	33,261	390
Toledo	71	102,360	51	85,160	90
San Antonio	222	135,195	154	94,800	50
Louisville	127	129,443	95	56,625	129
Lincoln	34	89,775	22	32,000	180
Grand Rapids	65	123,350	50	104,843	18
Dallas	114	122,065	68	84,842	43
Paterson	60	97,810	28	51,924	88
Mobile	16	31,875	22	20,640	54
Terre Haute	36	31,570	22	19,955	58
Pueblo	16	23,075	5	4,150	456
Davenport	6	16,170	6	20,500	721
Total	9,736	\$39,244,274	5,346	\$23,417,797	67

\*Including Manhattan and Bronx.

†Loss.

From the heavy gains of the recent past and from an insight based upon confidential information, as well as such facts as have been made public, there need be no apprehension about the condition of building for the next few months, as it is only a matter of how great the increase will be, and in this respect it will not be well to place the figures too low, as all prophecy heretofore has been wide of the mark, the expectations of the most sanguine having been surpassed by the facts.

## ROCK PRODUCTS



**The National  
Builders' Supply Association**

Meets Semi-Annually.

OFFICERS.

Gordon, Willis, St. Louis ..... President  
Harry W. Classen, Baltimore ..... Treasurer  
Harry S. West, Spitzer Bldg., Toledo ..... Corresponding Secretary  
James W. Wardrop, Pittsburgh ..... Executive Secretary

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California ..... C. J. Waterhouse, San Francisco  
Delaware ..... Charles Bye, Wilmington  
District of Columbia ..... S. D. Lincoln, Washington  
Georgia ..... V. H. Kriegshaber, Atlanta  
Illinois ..... H. C. Irwin, Springfield  
Iowa ..... R. Hay, Dubuque  
Indiana ..... H. B. Lyman, Lafayette  
Kentucky ..... Marion M. Allen, Newport  
Louisiana ..... W. F. Jahncke, New Orleans  
Maryland ..... J. J. Kelly, Baltimore  
Massachusetts ..... James A. Davis, Boston  
Michigan ..... S. J. Vail, Detroit  
Missouri ..... C. S. W. Cobb, St. Louis  
Minnesota ..... John Wharry, St. Paul  
New Jersey ..... A. Tomkins, Newark  
New York ..... M. A. Reeb, Buffalo  
Ohio ..... Frank Hunter, Columbus  
Pennsylvania ..... Cyrus Borgner, Philadelphia  
Rhode Island ..... C. M. Kelly, Providence  
South Carolina ..... A. G. Gower, Greenville  
Tennessee ..... J. C. Lovelace, Memphis  
West Virginia ..... R. W. Marshall, Wheeling  
Wisconsin ..... R. C. Brown, Oshkosh

EXECUTIVE COMMITTEE.

Gordon Willis, Chairman; Frank S. Wright, Chicago; John A. Kling, Cleveland; Charles Warner, Wilmington; J. C. Adams, Pittsburgh; Richard Kind, Toledo; James G. Lincoln, Boston.  
Official Organ, ROCK PRODUCTS.

**ON TO LOUISVILLE.**

The Tenth Annual Convention of the National Builders' Supply Association Promises to be the Greatest in the History of the Organization.

On to Louisville.

The tenth annual convention of the National Builders' Supply Association will be held in the Gateway City to the South February 9 and 10.

Louisville, far-famed in song and story for its hospitality, its beautiful women, its fast horses and its good whisky and for being the greatest tobacco mart in the world, will open up her arms and give the delegates the heartiest kind of a welcome.

The Seelbach Hotel, one of the finest hosteries in the country, comparing favorably with the best in the East, will be the headquarters. The big convention hall of the hotel will be used for the meetings, and additional space will be provided for the exhibit feature.

It is impossible at this time to give a complete program of the daily doings of the convention, but both National Secretary Harry S. West and Executive Secretary James W. Wardrop are at work on it and it goes without saying that it will be full of interest to every retailer.

From all reports the convention at Louisville will far eclipse in point of interest and attendance any yet held by the association.

ROCK PRODUCTS wants to urge upon every retailer of builders' supplies in this country the necessity of coming to this convention. If you are a member—come. If you are not a member—come anyhow and join in the good work.

The National Builders' Supply Association is a great power for good and every retailer in the country owes it to himself to be on hand. The motto of the state of Kentucky, within whose friendly confines the next meeting will be held, is "United We Stand, Divided We Fall." Put this on your banner and come to Louisville.

Every dealer in the South should take advantage of the fact that the convention is being held in a southern city and make up his mind to attend.

In the last issue of *News and Views*, the association's bulletin, is a stirring call to the members to bring along at least one man who is not a member. This is good dope. Take it to yourself—get busy. Don't be eternally shifting the responsibility of doing things onto your brother's shoulder.

If each and every member of the entire association would take this unto himself and really bring along one man, it would mean the doubling of the membership and the doubling of the strength, power and influence of the association.

The social feature of the convention is one of its most beneficial components. This meeting between the dealers is well worth what it costs to attend the convention.

We reprint the following two items from the last issue of *News and Views*:

To All Manufacturers:

Don't forget the Manufacturers' Exhibit in connection with our tenth annual convention at Louisville, February 9 and 10. It is not the intention to furnish space for cumbersome articles in the shape of machinery, brick walls, etc., etc., but ample space will be furnished for tables, literature, wall cards, advertising and such other articles of a nature easily handled or distributed or placed for exhibit. All space is free upon application to Harry S. West, National Secretary, Room 810 Spitzer Building, Toledo, Ohio. The convention promises to be the largest attended and most important in the history of the organization—there is much interest shown by the manufacturers and dealers of the United States—therefore it is respectfully suggested that early applica-



GORDON WILLIS, PRESIDENT, NATIONAL BUILDERS' SUPPLY ASSOCIATION.

tion be made for space so that there will be no disappointments. A word to the wise is sufficient.—Ed.

We meet to deliberate and to decide for the welfare of the dealers—let every member be present and do his best to measure up—to bear his share of the responsibility—to contribute his share to the success of the cause.

Don't forget that it's WE and not I.

Be prepared.

Be prompt.

Be ready and willing to participate.

Be ready to "give" as well as to "get."

Be reasonable as well as right—then go ahead.

Be kind as well as just.

Be considerate of others.

Be loyal.

Be a friend and you'll have friends.

Be a help and not a "holt."

The H. D. Gould Company has been incorporated in Middletown, N. Y., to manufacture and deal in lumber, coal, lime, cement, paint, sash doors, glass, etc., with a capital of \$30,000. The incorporators are H. D. Gould, F. H. Scudder, Middletown, and E. W. Slaughter, Crystal Run.

The Home Building Company, 3100 Atlantic Avenue, Atlantic City, N. J., has been incorporated as real estate, builders, contractors, etc. Capital, \$25,000. Incorporators, Emile J. Petroff, Harry I. Raup, and Thomas K. Goldenberg, all of Atlantic City, N. J.

The roofing department of the Youngstown Iron & Steel Roofing Company, Youngstown, Ohio, built to replace the plant burned down last October, is now in operation. Exceptionally good time was made in reconstructing the works and putting the new machinery into place.



H. S. WEST, TOLEDO, O., NATIONAL SECRETARY, NATIONAL BUILDERS' SUPPLY ASSOCIATION.

**New Retailer in Kansas City, Mo.**

KANSAS CITY, Mo., Jan. 18.—The Garrett Cement Company has been organized by S. C. Garrett, R. J. Johnston and G. R. Benedict, Jr. The company will deal in all lines of building materials and their office and yard are located at Eighteenth and Olive Streets. The warehouse is one formerly occupied by the Hollowell Cement Company. Besides this they have on Olive Street a building which they will use as an office building and warehouse for storing hair and colors. They will handle the Ricketson Mineral Paint Company's products. The main warehouse is 100 feet long by 25 feet wide and each building has a private switch track from the Belt road alongside it. They will be the agents for the Golden Seal plaster manufactured by the Independence Gypsum Company, of Kansas City. They will also be the agents for the Great Western Portland cement, which will be on the market in about thirty days. For lime they will handle the Ste. Genevieve, Mo., product.

Mr. Garrett, who is the president of the company, has for many years had a lumber yard at Leavenworth, Kan., and another one at Lansing, Kan. At the latter place he handles a full line of building materials, including Ash Grove Portland cement.

They are working hard in Kansas City and already have the contract for supplying materials for several large buildings.



JAMES W. WARDROP, PITTSBURG, PA., EXECUTIVE SECRETARY, NATIONAL BUILDERS' SUPPLY ASSOCIATION.

### Annual Meeting of Ohio Builder's Supply Association.

Early in February, Thursday the 4th, and Friday the 5th, the Ohio Builders' Supply Association, the hustling young organization of Ohio builders' supply dealers, holds its annual meeting at Toledo.

No pains or expense have been spared to make this meeting not only one of the best ever held by this organization, but even more interesting and entertaining than those of the various other similar organizations.

The speakers, who are all men of well known oratorical ability, have been selected with a view of bringing before the members some really interesting and enlightening discourses.

Mr. Richard Kind, or maybe you know him better as Dick Kind, of Toledo, is in charge of the entertainment committee. With this enough has been said on the entertainment topic, for with such a chairman, the famous hospitality of the Toledo bunch may be expected to outdo itself.

And here's a new one. The wives and daughters of the Toledo dealers have organized a ladies' entertainment committee, which will look after the welfare of ladies attending the convention.



RICHARD KIND, TOLEDO, O., CHAIRMAN ENTERTAINMENT COMMITTEE, OHIO BUILDERS' SUPPLY ASSOCIATION.

The committee in charge of the convention have secured rates from the various hotels in Toledo as follows:

Hotel Secor (headquarters), European plan, \$1.50 per day and up; Boody House, European plan, \$1.50 per day and up, American plan, \$2.50 per day and up; St. Charles Hotel, European plan, \$1 per day and up; Jefferson Hotel, American plan, \$2 per day and up; Southern Hotel, American plan, \$2 per day and up.

The dates for the meeting were selected so close to the National Builders' Supply Association meeting, at Louisville, in order that manufacturers who were compelled to travel a considerable distance, might take in the two meetings in one trip.

This meeting will be over Friday evening and visitors intending to attend the Louisville meeting can run down to Cincinnati over Sunday and be on hand early for the opening session of the National Convention.

All who don't attend will miss a good time that pays its own expenses.

The program is as follows:

Thursday, February 4.

MORNING SESSION.

Convene assembly room, Secor Hotel, 10 a. m.

Address of welcome on behalf of the city of Toledo, Hon. Brand Whitlock, mayor.

Address of welcome on behalf of local builders' supply interests, P. H. Degan, president Toledo Builders' Supply Company.

Address of welcome on behalf of Toledo Chamber of Commerce, G. B. Storer, secretary.

Response on behalf of the Ohio Builders' Supply Association, W. A. Fay, president.

Adjourn to 2 p. m.

#### AFTERNOON SESSION.

Executive session, active members.

Roll call.

President's address, application for membership, balloting for membership, reading of minutes, unfinished business, new business and general discussion of subjects of interest to members.

Adjournment.

Theater party, 8 p. m.

Visiting ladies, escorted by the local ladies' reception committee, will be taken to places of interest during the afternoon.

#### Friday, February 5.

##### MORNING SESSION.

Paper, "Harmony," by C. D. Warner, of Chicago. General meeting of manufacturers and material dealers.

Adjournment to 2 p. m.

##### AFTERNOON SESSION.

General discussion by and between manufacturers and members on subjects of interest to all.

"Smoker and Lunch" at Elks' Club at 6:30 p. m. Everybody invited. (This includes ladies.)

During the afternoon the visiting ladies, escorted by the local ladies' reception committee, will be taken to the Toledo Yacht Club for luncheon.

### Lumber Dealers Meet in Toledo, Ohio.

The twenty-seventh annual convention of the Union Association of Lumber Dealers was held in Toledo, Ohio, January 19-20, with headquarters in the Hotel Secor. The meeting was called to order at 10 o'clock on the morning of the 19th by President Henry O. Norris, of Newark, Ohio. An address of welcome was given by Hon. Brand Whitlock, mayor of Toledo, and the response by F. D. Torrence, Xenia, Ohio. The annual reports of the secretary and treasurer were then read and a discussion of the same followed. Many interesting papers were read, and the following committee appointed:

Auditing—A. A. Davis, of Newark; James Anderson, of Sidney, and J. W. Smith, of Portsmouth.

Nominations—Frank Wuichet, of Dayton; M. J. Bergen, of Columbus.

Resolutions—J. T. Partz, of Dayton; J. Henderson, of Zanesville, and Laurens Hull, of Lima.

Constitution and by-laws—S. S. King, of Dayton; L. E. Gleason, of Van Wert, and L. H. Smith, of Newark.

### Indiana Retail Lumber Dealers' Meeting.

The silver anniversary of the Indiana Retail Lumber Dealers' Association was held at Indianapolis, Ind., January 13-14, with a fair attendance. The meeting convened in the convention hall of the Claypool Hotel at 11 a. m., and was called to order by President W. F. Johnson, of Indianapolis, who read his annual address. Secretary H. C. Scarce, of Mooresville, read his annual report as secretary, and it was an optimistic document. Mr. Scarce, as treasurer, also presented the financial report. Several interesting papers were read and the following committee appointed:

Resolutions—Charles Hege, Columbus; C. D. Meeker, Monticello; J. W. Pinnell, Indianapolis.

Obituary—S. P. Stroup, Shelbyville; C. C. Foster, Indianapolis; George Springer, Anderson.

Nominations—J. S. Jackson, Knightstown; Will C. Pulse, Greensburg; W. C. Raymond, Marion.

E. P. Deming, of Hammond, Ind., was elected president, and Guy Pierson, of Spencer, Ind., vice-president. The following directors were also elected:

W. F. Johnson, Indianapolis; Charles W. Lanz, Bedford; E. McErlain, South Bend; August Fromme, Terre Haute.

A complimentary banquet was given to the membership and ladies in the main dining room of the Claypool Hotel, the Retail Lumber Dealers' Association of Indiana, Indiana Hardwood Lumber Dealers' Association, visiting Hoo-Hoo, local wholesale lumber dealers, members of the Central Association of Lumber & Sash & Door Salesmen, representatives of mill supply concerns and others.

Wilbur & Bull, Otisville, N. Y., dealers in sand, have just closed a very successful year. Their output was about 50,000 tons or 2,000 carloads, which is a large increase over the previous year. They expect to set up a large concrete block plant in connection with their business in the near future. Their pit contains sand for nearly every purpose, such as engine sand, concrete, foundry, building and numerous other kinds.

### Come to the Kansas City Meeting.

Final announcement of the twenty-first annual convention of the Southwestern Lumbermen's Association has been issued, and it promises three exceptionally profitable days for those in attendance. The convention hall will be headquarters as well as the place of meeting, and this will add to the social features of the convention.

Registration will begin at 9 a. m. Tuesday, January 26, and registry will be necessary to secure the privileges of the convention. Ladies are cordially invited to attend both meetings and entertainments, and members accompanied by their ladies are asked to note the fact on credential card for the information of the entertainment committee.

A business program covering interesting and important subjects is in preparation; among the subjects will be that of the "code of ethics" recommended by the American Lumber Trade Congress, a copy of which has been sent to members with the suggestion that they be prepared to discuss it at the convention.

The first session of the meeting will convene at 2:30 p. m., January 26, the second and third sessions at 10 a. m. and 2 p. m. respectively January 27, and the final session at 10 a. m., January 28. There will be a meeting of the directors of the association at the secretary's office, 707 R. A. Long building, January 25.

The committee has provided a series of entertain-



W. A. FAY, CLEVELAND, O., PRESIDENT, OHIO BUILDERS' SUPPLY ASSOCIATION.

ments that will be up to the high standard set by previous conventions.

A roundtrip rate of one and one-half fares on the certificate plan from all points within one hundred miles of Kansas City, in Missouri, Kansas and Oklahoma, have been announced by the Rock Island, Frisco, Missouri Pacific, Missouri, Kansas & Texas and the Kansas City & Southern. The Santa Fe, Union Pacific, Burlington, and the St. Joseph & Grand Island have not as yet announced rates. Therefore, members on those lines should keep informed through the local agents and secure the certificates if such reduction is made.

Our own dealers who handle, in addition to lumber, cement, plaster, lime and metal specialties used by the building trades, will find ROCK PRODUCTS on the job all the time, and we want to shake hands with every one of you. There is confidence of a big year's business ahead and the great inaugural of good times should be started with the great convention at Kansas City.

### Up-to-Date Sam.

The Samuel J. Vail Company, 803-804 Hammond Building, Detroit, Mich., dealers in builders' supplies, sent out a card with a calendar of the month of December and a twig from a fir tree in one corner, with the following holiday greeting: "Wishing to remember, and hoping to be remembered, we send you with our wishes for good cheer a twig from our Christmas tree—plenty of room for stockings—fill them with anything—mostly noises like orders—that next order for building supplies."

## ROCK PRODUCTS

### Northwestern Lumbermen Meet.

The nineteenth annual meeting of the Northwestern Lumbermen's Association was held January 19, 20 and 21, at Minneapolis. The headquarters was at the West Hotel, although the sessions were held in the Court House.

Early in the morning of the 19th lumbermen from all parts of the Northwest, as well as from Wisconsin, Illinois and Iowa began to arrive. Many of these lumbermen were also cement, plaster and roofing men, who were cordially welcomed by cement manufacturers. These manufacturers were on hand early and opened up headquarters on the parlor floor of the West Hotel.

The first session of the association was called to order by the president promptly at 2:30 p. m., and after the annual address of the president and report of the secretary and treasurer, the rest of the afternoon was given over to the consideration of the code of ethics, recommended by the American Lumber Trades Congress.

Wednesday's session was the "real thing" of the whole convention, as several important addresses were delivered. Nelson S. Darling, of Oklahoma City, Okla., popularly known as Nels by the trade, was the drawing card for the day, and his address on the mail order problem was both interesting and unique.

The last day of the convention was given over to reports of committees and election of officers. The following officers were elected:

President, C. A. Finkbine, Des Moines, Ia.

Vice President, E. G. Flynn, Minneapolis.

Secretary, W. G. Hollis, Minneapolis.

Treasurer, George P. Thompson, Minneapolis.

Directors, for three years, M. T. McMahon, Fergus Falls, Minn.; G. C. Ingram, Sauk Center, Minn.; directors, for one year, W. H. Day, Jr., Dubuque, Ia.; O. M. Botsford, Winona, Minn.

The convention endorsed the code of ethics recently recommended by the American Lumber Trades Congress, but made a few changes from the original, such as the elimination of the terms of sale, the recommendation that a copy of the bill of lading should be forwarded at once with each invoice sent out, etc. The incoming president was also instructed to appoint a committee of three with power to act to represent the Northwestern Lumbermen's Association at the next meeting of the American Lumber Trades Council.

### NOTES OF THE MEETING.

As usual the Universal Portland Cement Company were on deck, having the bridal chamber on the parlor floor of the West Hotel and were represented by J. C. Van Doorn, the Northwestern sales agent. The balance of the force were: E. S. Macgowan, W. C. Berry, P. A. Kypke, of the Minneapolis office, and E. J. Dowdall, from the Chicago office.

The Northwestern States Portland Cement Company, Mason City, Ia., was also represented, and occupied two rooms on the parlor floor of the hotel, where they entertained their friends and displayed their products. H. B. Hasbrouck, manager of sales and traffic, for the company; M. K. Sawyer, J. F. Lynch and H. B. Holly were all present to help represent this enterprising company.

The Atlas Portland Cement Company, of New York City, was represented by F. C. Bailey and Walter Smith, salesmen of the company in the Northwest, also by F. E. Potter, of the New York office. This company entertained their friends with cigars and a large share of hospitality.

The Iowa Hard Plaster Company, of Ft. Dodge, Ia., was represented by R. W. Merrill, secretary and general manager. H. F. Orr, traveling salesman of the company, was also present, and gave his special attention to exploiting the merits of "White Rock" cement plaster. With reference to business conditions in the plaster line, Mr. Merrill said: "We look for a good year this year. Indications point that way and we can feel it in the air. There is a good undercurrent of building talk that will certainly materialize in the spring and make good trade for the building materials men."

The Marble Head Lime Company, Chicago and Kansas City, was represented by C. E. Marvin. With reference to lime conditions Mr. Marvin said:

"General conditions are good and everybody through Iowa, Illinois and northern Missouri, feels that this is going to be a banner year. I find that orders are being placed early this year, which is a good indication."

The Northwestern Lime Company, St. Paul, Minn., was represented by John Wharry, president; R. D. Turpin, secretary of the company, and W. L. Grathwol, traveling representative. Mr. Grathwol, who has covered a good deal of territory lately, said that things are opening up nicely in North and South

Dakota, and people are ordering early this year. Mr. Grathwol thinks part of this is due to the present low price in cement.

Marquette Cement Manufacturing Company, Chicago, with mills at La Salle, Ill., were represented by J. J. Kehoe and Gold Williams. Mr. Kehoe and Mr. Williams had a good display on hand, showing their product in all stages of production. These gentlemen were very hospitable and many of the cement retail men visited their rooms. Every visitor was supplied with a special brand cigar, put up for the company, paper weight, tape line, lead pencil, pocket looking glass, literature, and a small cement brick that would take 1,000 lbs. of pressure to break. The Marquette men were certainly there with the goods.

F. S. Vaughn, of Yankton, S. D., representative of a Minneapolis cement concern, was an attendant at the convention. Mr. Vaughn says he sells a lot of cement in his territory, but just at present things are a little dull. He looks for an improvement in conditions, however, before spring.

W. T. Reilly, of Reilly & Lathrop, Northfield, Minn., was on hand and renewed some old acquaintances. Reilly & Lathrop handle a complete line of cement, lime and other building materials.

Ralph Miracle, of the Miracle Pressed Stone Company, Minneapolis, showed up among his associates with a bad cold, which he got at Cleveland last week. Mr. Miracle was formerly in the lumber business and has many friends among the Northwestern lumbermen.

W. G. Weart, of the Weart-Frisby Lumber Company, Cedar Falls, Ia., was one of the busy men at the convention. This company started in the cement block business last year and expects to do a large business this year. Mr. Weart said that prospects indicate that this year will be as good a year as they have ever had, and already there are many residences and other building operations in prospect.

T. H. Hume, of Lund & Hume, St. Ansar, Ia., spent three days at the convention. Mr. Hume says the current business is going to be good in Iowa this summer.

J. M. C. McDaniel and Geo. L. Welch, of the Chicago Portland Cement Company, Chicago, spent Wednesday and Thursday entertaining the many friends of their company at the convention.

Smith Bros., Spirit Lake, Ia., were well represented, and called on many of the cement manufacturers.

D. E. Roberts represented the Plymouth Gypsum Company and the Plymouth Clay Products Company, both of Fort Dodge, Ia. Mr. Roberts handed out cigars and a fine leather covered pocket note-book with the compliments of these companies.

J. W. Chapin, Winfred, S. D., one of the cement retailers of South Dakota, said that the outlook for trade at this time is good.

J. F. Daubenberger, of Daubenberger Bros., McGregor, Ia., took a great interest in the convention proceedings. With reference to the cement situation in Iowa, he said: "Business is pretty fair now. We had a flood last year that wiped out all the old wooden sidewalks, and the city passed an ordinance requiring property owners to replace them with cement walks. That made a good cement year for us. But we expect a good year this year just the same."

### A Retailers' Information Bureau.

For the benefit of the retail trade who handle cement, lime and plaster and other products of rock, in order to perpetuate their business we will put them in personal touch with the men manufacturing the best lines of specialties. We can tell them how to reach the farmer or the city man, and cooperate with your sales department to enlarge your business in this way.

Our retailer man has been in the retail business himself and has also had newspaper experience. Address Retailer Man, care ROCK PRODUCTS, on any subject you cannot find covered otherwise.

The Texas Gravel Company has been incorporated at Buckholtz, Milam county, Texas; with a capital stock of \$30,000. The incorporators are J. H. Muldown, H. F. McGregor and N. C. Abbott.

The Arundel Sand and Gravel Company, Baltimore, Md., of which Frank A. Furst is president and Joseph J. Hoch general manager, a few months ago put in three dredges, each costing \$30,000, to take up the gravel from the bed of the Chesapeake, and have built up an industry which promises to develop to great dimensions. Vessels are already being sent as far south as Key West with gravel by this company and a boat with a capacity of 3,000 tons is now on its way to Key West.

The sand plant owned by the Tavern Rock Company was nearly destroyed by fire last month.

### Boom Your Own Town.

In discussing with a retailer in Marysville, Kan., recently the question of how to improve his trade where there are new towns springing up all the time, he remarked the best thing he had seen along that line were comments last month by the Rock PRODUCTS Retailer Man on the dealer taking an interest in his town. When I saw Mr. Webber I just discussed the subject with him. He said, "You hit the nail on the head," and picking up a local paper he handed me the following, which has a direct bearing on the needs of Marysville and applies to many towns:

"Business men from other places who come to Marysville and get to know it well invariably comment on the lack of public spirit evident. You hear words of praise as to the appearance of the city and its streets; praise for the appearance of the stores and stocks of goods displayed; praise for the productiveness of the contributing territory and praise for Marysville's natural position as a business center, but despite all this they deplore the absence of any united work on our part for the upbuilding of the city. They question us in regard to our Commercial Club and then launch into glowing accounts of the work done by such bodies in their own towns; of the new industries brought in and of the assistance given to build up those already there. There is no escape from the indictment made, and the query naturally arises: 'What is the matter with Marysville?' We have excellent business men, superior manufacturing industries, financial institutions as strong as Gibraltar, but little or no public spirit. There is no sentiment apparent towards advertising the town's advantages elsewhere; there is no unity manifested in movements calculated for the general good, and whenever there is a project advanced for mutual benefit the work is left to half a dozen or less public spirited citizens, while the remainder hold back or criticize on general principles or from selfish interest. Scores of cities with not one-tenth of our opportunities are moving forward, but we are content to remain as we are. Marshall county is in the front rank, it has scores of good, substantial towns and all are prosperous, but Marysville, not alone as the county seat, but from its excellent railroad facilities and its natural advantages, should be rapidly forging to the front as the one city of north Kansas. That it has been held back is due to this very lack of unity and civic pride and there is but little hope for immediate improvement, now or hereafter, until the younger element experiences a change of heart and frowns down upon the sentiment which we heard the other day: 'I don't care a continental for Marysville, as long as I do well myself'."

If every retail building material man was to take an interest in his own town he should get the co-operation of every merchant in that town and do what the Chicago Commercial Association is doing today—that is, send a delegation to the farmers in other parts of the county. The object of individuals of this trip is not to talk their own lines, but talk "our town" and its strong points as a place to buy goods. There is no reason why there should not be a high class business organization known as the commercial club or board of trade in every city, and if they would pattern after the big central market idea it would mean more trade for the bank, for the merchant and for the retailer of building materials. If there is any retailer who desires any special information on this subject, if he will address the "Retail Man" he will be glad to prepare for him constitution and by-laws and line of work that will make it possible to select the best men in your town and make a dead set on not only keeping the old trade, but getting some of those who have gone to new towns to come back.

### A Well-Arranged Shed.

While in Kansas the other day I had the pleasure of looking over the big shed of the Adam McMillan Lumber Company, Marysville, Kan. Mr. Henry Hackfeldt, manager, told me this was built by the company who formerly owned this yard, and it was built well, for it is splendid shelter for lumber, lime and cement; is 60x30. Is a double-decker and is 22 feet to the comb of the roof. The lumber stalls are 6½x8. This yard covers six lots and is one of two concerns operating in the town. They handle Sunflower cement, U. S. gypsum goods, and have had a fair year's business in 1908, although they anticipate a better volume of business in 1909. This company also handles roofing material and lime, the latter from the Hannibal (Mo.) Lime Company.

The other dealer in this town is E. O. Webber, who was busy the day we dropped in on him, for he had been to a tax meeting. You know the Kansas legislature last winter passed a new bill, changing the levy in collecting taxes, and the farmers are walking on air because of the increase in their tax bills. Mr. Webber said, of course, there might be some corrections to be made in this new tax bill, but it really means that the towns are not paying all the taxes nowadays and probabilities are that the farmer and townsman will practically have this matter corrected.

**Town Fathers Favor Cement**

Mr. Webber is an aggressive man in the community and advised me that the town fathers had been good to the cement business, because they felt the cement walk was the best walk made and, therefore, in making up their building laws they had specified that all new sidewalks should be built of cement. The result is Marysville has some excellent sidewalks and, as one townsman said, "It does not cost much more than brick and we have a better walk."

I also noticed that the street crossings were largely made of cement and this made it easy to cross the street. With cement being used for culverts and foundations as well it means quite a little cement can be used in a town where the dealers take an active interest in the welfare of the city as well as promoting their own business at the same time.

Speaking of Kansas, Mr. Webber said: "You know we have the two extremes here, politics and the weather. This year it has been a case of the weather. We have only had about two and one-half feet of rainfall in one month, when ordinarily we only have 30 inches of rain in a year."

Another dealer in speaking of handling cement said: "Our troubles are mostly concerned where we have to return the sacks. They are more trouble than they are worth. We have to carry them on our books, keep track of contractors, and we either beat the cement company out of some sacks or the cement company beats us out of credit, and the result is that we all have our troubles."

Another dealer, in speaking of handling cement in the yard, said: "I find that we secure quite a little trade both in and out of town for cisterns. Most everybody gets familiar with a brand of cement, and this happened to be one of the oldest brands, the Sunflower, which is typical of Kansas, and we at last have secured the cooperation of the contractor. He used to think if he did not get his cement from Europe he could not build a cistern at all, because it was not real cement. We are glad to note this cooperation, because when the dealer and the contractor both get to specifying one or two brands of cement it means the consumer gets confidence in a brand on the bag and it really means the use of more cement. There is nothing like gaining the confidence of people in a particular brand, and where the retailer carries but one or two he finds it easier to sell his customer, and that means more intelligent use of cement, and that is what we are all after, as it means a greater consumption."

Another very good consumption of cement I found is for basements, where cement makes a practically dry cellar.

**Hydrated Lime as A Disinfectant.**

The retailers in the West have been pretty well educated on hydrated lime, but they will find if they investigate that hydrated lime should sell in towns where they have no sewerage system for disinfectant, and with proper advertising to farmer and town folk it is possible that quite a trade might be built up. If you will discuss this matter with the local doctor he will tell you that the use of lime for sanitary purposes will reduce the death rate. If you will address the Retailer Editor of ROCK PRODUCTS he will make it his business to prepare something that you can use at a nominal cost to advertise to both farmer and townsman hydrated lime for this purpose. Inasmuch as it is put up in small packages if you like, and can be easily carried home, the first thing you know with a little bit of effort you will have hydrated lime in every house in your town as well as every farmer's residence.

The John S. Busch Manufacturing Company has been incorporated in New York City to manufacture and deal in builders' supplies, with a capital of \$1,000. The incorporators are John S. Busch, John H. Busch and William B. Busch, all of the Bronx.

The Universal Portland Cement Company, Commercial National Bank Building, Chicago, are and have been increasing their sales force for some time back. Their latest acquisitions are A. C. Wilby, of Waterloo, Iowa, who was formerly connected with the Waterloo Cement Machinery Company, and J. H. Sechrist, who but lately was employed in the executive department of the Union and Southern Pacific Railroads. Mr. Wilby will act as traveling salesman for the state of Iowa, while Mr. Sechrist's energies will be confined to the city (Chicago) department. The Publicity Bureau, which is quite a feature with the Universal Portland Cement Company, has also outgrown its present quarters and J. P. Beck, who has charge of this department, is enlarging them and making all necessary improvements before the spring activity demands his attention.

**We Have the Figures—Let's Get Busy.**

Well, the trial balance is off and the material men have been together and talked it over. They have discovered that it is a good thing to talk it over, because they had varied experiences last year. In the beginning of 1908 almost every retailer of building material had a big stock of lumber, cement and lime, and the price went to the dikes on all these lines; therefore, before they got to selling a wagonload of stuff they recognized that they were up against a dead loss unless they considered well the question of maintaining values in their town.

Discussing this matter with an operator of some ninety yards the other day, he said: "Strange to say, our men in most every case were able to hold our prices at such a point that if we did not make any money we did not lose any, notwithstanding the fact that we had high-priced material and the trade was dull in many lines, and most every consumer expected to buy building materials cheap because the manufacturer's price had gone to the 'bow-wows.' However, intelligent cooperation between retailers in the town makes it possible to sell about so much material and at the same time get the price, and if ever a retailer had to hustle along these lines it was in 1908.

"Our yards show up even better than 1907, but the only reason they did is because we figured out what we were up against and by thorough cooperation worked out the problem. There is no reason why the retailers of building materials should not do the same thing in 1909. Probabilities are there will be as much building material used as in 1906, and therefore it behoves the retailer to get busy. Conduct his business intelligently; buy economically; don't stint the quality for price, and get a fair margin on everything you sell."

**Deserved Words of Praise.**

When W. W. Fischer, a prominent young lime and cement merchant of Memphis, was nominated on one of the tickets for president of the Builders' Exchange of Memphis last January, an element of opposition was developed at once by members who opposed the idea of a material dealer for president. Mr. Fischer won the race, however, and perhaps the best vindication of the wisdom of the choice of the exchange is the remarkable prosperity of the organization during the entire period of his administration. It is doubtful if the growth of the Memphis Builders' Exchange during the past twelve months has a parallel in the history of such organizations. Mr. Fischer's broad experience in affairs and high standing as a successful business man, contributed to carry the exchange on a very tidal wave of prosperity, notwithstanding the fact that a serious financial panic threatened the welfare of the organization twelve months ago. The membership this year has been doubled, being now nearly 200, with a bright outlook for a substantial increase the coming year. The exchange last April removed into its present commodious quarters with not only ample space for its needs, but also sufficient amount rented out to members for office use to go far toward paying the running expenses. Through Mr. Fischer's suggestion, also, an important addition has been made to the membership, two new classes having been added this year, viz., fire insurance and non-resident or associate members. While Mr. Fischer's administration has been an innovation, and he has been the only material dealer to hold the position of president during the nine years of the existence of the Memphis Builders' Exchange, he has admittedly filled the position with as much credit as his predecessors, and will have the satisfaction of turning over to his successor an organization that is a pride to the city and as progressive as any business organization here or elsewhere.

The stockholders of the Brokensword Stone Company, Bucyrus, Ohio, held their annual meeting January 12, and the directors re-elected were Dr. John Chesney, P. J. Carroll, W. H. Picking, Jacob Bach, M. E. Carroll, Isaac Nusbaum and S. M. Hall. The officers re-elected were John A. Chesney, president; P. J. Carroll, vice-president and general manager; W. H. Picking, treasurer, and S. M. Hall, secretary.

The Judd-Field Company, Herkimer, N. Y., has been incorporated to deal in coal, cement, brick, builders' supplies, etc., with a capital of \$25,000. The incorporators are John M. Judd, Ferd R. Field and Mary J. Judd, of Herkimer.

The Western Pressed Brick Company has been incorporated at Cincinnati, O., by Edgar Kennedy and others with a capital of \$60,000.

**Announcement of Conventions.**

The annual meeting of the National Brick Manufacturers' Association, to be held in Rochester, N. Y., February 1-6, promises a large attendance. The week's schedule begins on Monday with the sessions of the American Ceramic Society, which will meet Monday, Tuesday and Wednesday forenoons, February 1, 2 and 3. It is planned that the sessions of the American Ceramic Society will not overlap those of the National Brick Manufacturers' Association, which commences on February 3 at 2 o'clock.

The National Paving Brick Manufacturers' Association will meet Monday and Tuesday, February 1 and 2, and the National Clay Machinery Association will meet on Wednesday afternoon, February 3.

The National Brick Manufacturers' Association will make its headquarters at the Seneca Hotel, and the sessions of the convention will be held in Rochester's fine convention hall, which affords splendid facilities not only for the meetings but for the displays of exhibitors.

The Wisconsin Clay Manufacturers' Association will hold its annual convention in Milwaukee, Wis., on February 10-12. The headquarters will be at the St. Charles Hotel.

The Northwestern Clay Workers' Association will hold its annual meeting in Minneapolis, Minn., on Wednesday, February 10.

The Brick Makers' Association of Arkansas, Little Rock, Ark., are preparing to hold a convention in June.

The next meeting of the Texas Brick Manufacturers' Association will be held in Dallas, Texas, Saturday, February 13.

**Many Improvements in Manufacturing Plant.**

\* SAG HARBOR, L. I., Jan. 8.—Extensive enlargements are to be made to the manufacturing plant of the Fahys Company in this place. An order for 300,000 brick has been placed with the Sag Harbor and Fishers Island Brick Company. The east wing of the factory building is to be raised a story, a new melting department built, and in the present courtyard will be erected a three-story stock room.

**Secures Large Contract.**

The Champlain Brick Company, of Mechanicville, N. Y., has been awarded the contract to furnish the brick for the new educational building at Albany. The contract calls for 4,000,000 brick; as the full capacity of the yard is 85,000 brick a day it will take nearly two months to fill the order.

**Brick Company Organizes.**

Stockholders of the Interstate Brick Company, of Youngstown, Ohio, recently incorporated with a capital of \$100,000, met on January 6, and organized.

Robert Bentley, W. L. Kauffman, William McIntosh, M. S. Logan and F. D. Zug were elected directors and organized as follows: W. L. Kauffman, president; William McIntosh, vice president; M. S. Logan, secretary and treasurer.

This company will manufacture a high grade building brick and paving block from shale of which the company has a very large deposit on its property. Officials of the company hope to have their plant in operation by the middle of the coming summer.

**Uncle Sam's Ceramic Department.**

The ceramic department of the United States Geological Survey at the United States Barracks, Pittsburgh, Pa., will soon assume the proportions of a first-class clayworking establishment. A building of comfortable dimensions is being erected and a kiln and the necessary mechanical appliances to equip a firstclass establishment are being installed, so that Prof. A. V. Bleininger and his assistant, H. E. Ashley, will soon be ready to start their research work.



### Ho, For Pittsburg.

The bugle blast has sounded from the Virginia Valley, where the gallant leader of the lime manufacturing host of this land keeps his castle. The resounding call of, Courage, comrades! Come to Pittsburg, Fort Pitt Hotel, on February 17 and 18, to the annual meeting, reaches throughout the country. Let every member take heed and be on hand. Let every lime man who is not a member wake up to the enterprise of those who constitute the National Lime Manufacturers' Association. There is room enough for all, and plenty of benefits for everyone. All are invited. Let none stay away, for a feast of good things and a hearty welcome awaits.

### The Voice of the National President.

To the Lime Manufacturers of the United States—  
Greeting:

My text for this letter is: "The Seventh Annual Meeting a Record-Breaker."

This meeting will be held at the Fort Pitt Hotel, Pittsburg, Pa., February 17 and 18, 1909.

Since our last annual meeting so much has occurred it is hard to believe that only a year has rolled around.

The greatest panic of a century has been smothered. The greatest fine ever imposed has been declared unlawful.

The greatest naval parade in history has been successfully executed.

The greatest earthquake and loss of life that has ever appalled mankind has occurred.

The biggest man who has ever run for the Presidency has been elected.

The greatest business disturber the United States has ever known has had his last round. (It is your guess who I mean.)

And now we face a business record-breaking year. So much for affairs in general. How about lime and the National Lime Association?

The largest gathering of lime manufacturers the world has ever seen assembled in Cleveland within the last year, and the largest record of a lime manufacturers' meeting has been sent out to the members of the National Lime Association, so that it is safe to say the National Lime Association has taken strides that are in line with these other great events.

But I am getting away from my text, "The Seventh Annual Meeting a Record-Breaker"; and why not? Is there a member of the National Association who does not think the Association is double-quicking to the front, and have not many manufacturers, not members, averred they are ready to join hands with us, that they feel the association is quivering with life and nervous energy, so that the undying principle of success—confidence—is felt that the National Lime Association will work out its great purpose, but like a man with a wheelbarrow, our work is before us, and so we must push along if we are to make good, which means, put lime in the same line as steel and cement.

At the last annual meeting we had two remarkable papers offered by Messrs. Lowell M. Palmer, Jr., and Charles Weiler, and the thoughts therein conveyed were of such moment to the manufacturers that a development to put the lime business in the front rank of commercial enterprises, and make of the individual manufacturer "malefactors of great wealth," (does that make you mad?) has been like some great subterraneous disturbance that gives warning first by a trembling movement, followed by grumblings, which in turn brings about the shaking up, and eruption has been in progress.

This subject will be further developed by Walter S. Sheldon, and you can expect a lot from this paper. Mr. Sheldon will make good; he always does.

Unfortunately the present has in it so much of self that we sometimes allow personal feelings and selfish motives to govern us, when only the broad principles of brotherly love that should apply to business, as well as private life, as laid down by the Golden Rule, "Do unto others as you would have others do unto you," should be applied, and we forget that the man who, although not in what we call our territory, is our neighbor, and we make of his territory a dumping ground for our surplus product, saying to ourselves this will enable us to reduce administration or overhead expenses, even though the business is done without profit.

This is eminently unfair, and ultimately leading to price demoralization and bad feeling. There is no person in the lime business better able to handle this question than the general manager of the American Lime and Stone Company, so I can promise you a strong and able paper on the subject, "Territorial Supply and Unwarranted Price Cutting," by A. A. Stevens. You can expect Mr. Stevens to exorcise and cut till the flesh is raw and to hear truths in plain, every-day garb, but I have a great physician in reserve, who will tell you how to get together, and stay together, and he will tell you this in honeyed phrase and oratorical flight. He will convince you while you laugh and make you feel that he has your personal welfare in his particular charge. It is this man who has welded the supply dealers together, and who has made money for them, who has scolded, chided, coaxed, threatened, cajoled, and yet has not made one enemy or left a bad feeling. It is unnecessary for me to name him, as you already know I refer to James W. Wardrop, executive secretary of the Builders' Supply Association. The title of his subject will be "Organization and Coöperation."

When the United States recently established, under the new survey, a bureau and laboratory, and wanted a man to take charge of the Department "Cementitious Materials" it did not hesitate to offer this place to A. V. Bleininger, of the Universities of Ohio and Illinois, so that the National Lime Manufacturers' Association is to be congratulated that it is to have a paper by this eminent chemist on "The Physical Properties of Lime."



W. E. CARSON, PRESIDENT NATIONAL LIME MANUFACTURERS' ASSOCIATION, RIVERTON, VA.

Prof. Bleininger's book on cement is looked on as the best yet written.

A few years ago I met a lime manufacturer who was wearing a broad smile. On inquiry I found that certain problems that had been harrowing him were no longer problems; they had been solved. "How?" I inquired. "I got a man from Columbus (S. V. Peppel) down to my plant, and he put me straight and on even keel." I wrote his name down (a good habit, by the way when you have anything good) and looked him up, and have prevailed upon him to offer a paper on "Heat Temperatures in Lime Kilns as Related to the Fuel Problem."

Just stop a moment and think. How do you know when your lime is burned? Depend on your fireman, don't you? Is he a graduate of a technical college? No, just a strong, willing worker. Now, is this right? How much fuel do you suppose is being wasted, and do you believe any industry can flourish under such haphazard management? Well, Mr. Peppel has pretty well solved this trouble, and will tell you about it.

To the lime manufacturers of the United States who attend the annual and semi-annual meetings the name of E. W. Lazelle is a household word, and as well known as Jim Jeffries' in the sporting world. Dr. Lazelle has offered more strong, meaty papers to the association than any other individual, and he knows more about the subject lime in all its phases than any other man in the United States, and when I tell you that we have again secured him to give a paper you will rejoice with me. He will talk on the subject, "Hydrated Lime as It Is Today, and the Standardization of Hydrated Lime."

That the National Association should seek new avenues for the use of lime is a proposition beyond

debate. That the greatest present outlet is in filtration plants is not generally known. If we are to teach others we must first learn ourselves, and there you have one of the dominant features of the National Lime Manufacturers' Association to educate the manufacturer that he may intelligently direct his subordinates in their work, and be equipped with knowledge when he sells his product, so that he can meet every question and problem that may confront him.

To the end of learning something about lime in filtration we went to the great city of St. Louis, where a filtration plant using lime is in successful operation, and secured the services of E. E. Wall, the assistant water commissioner, to speak on the subject.

Just think what it would mean to the lime industry if every town and city that filtrates its water would adopt the St. Louis system. Lime would become a commodity sought after instead of one to boost. These are the papers, at this time, thirty days before the meeting, we can actually promise.

We are arranging for papers on the following subjects: "Linings for Lime Kilns," "The Gas Producer as Developed in Lime Kiln Practice," "Economical Equipment of the Quarry, and as to Possibility of Cheapening the Route to the Crusher and Kilns," "The Necessity of Lime in Growing Alfalfa," and some other subjects that we have not as yet fully developed.

Now then, can you, in fairness to yourself, your stockholders or your plant, stay away from this educational feast? Can you afford to stay out of the association? Can you let the opportunity pass to question and cross-question these experts on the manufacture of lime? Can you say "My plant is perfect?" Can you surmise what may be thrown out that will give you a lead toward an unthought of development?

Perhaps you can patch up an understanding with Bill Jones, who has been cutting prices; if you have such a grievance bring it with you, and give me a line on it, and I assure you that we will find a way. "Enough said." You will be at the Fort Pitt Hotel, Pittsburg, Pa., on the 17th and 18th of February, so with the slogan, "The Seventh Annual Meeting a Record-Breaker," I will leave you. By the way, \$25 will pay your entrance fee and dues for the current year. Just send it along to Col. C. W. S. Cobb, Old Manchester Road and Boyle Avenue, St. Louis, Mo., and join the happy band.

Yours truly,

W. E. CARSON,  
President National Lime Manufacturers' Association  
of the United States.

P. S.—I forgot to say that "Pap" Lauman would be on hand with a paper on "Pittsburg Stogies I Have Known," closing with a presentation of a box for each member—Pittsburg is his burg.

### The Rotary Kiln Chimera.

Every so often there comes along an inquiry like this: "Can you put us in communication with a machinery concern that is in a position to equip a lime plant with rotary kilns, which you know to be successful, profitable and economical?" These parties always want plans, estimates and full particulars as to the kind of fuel to be used, the method of application, etc.

Lime burning in a horizontal rotary kiln is more or less of a chimera. Many years ago experiments were conducted in Germany and later in England, but these have never resulted in any practical improvement. In both cases, however, there was a partial success, for small sample runs of well burned lime resulted from the experiments. It was only when the attempt was made to operate the horizontal rotary kiln continuously or intermittently to produce lime in commercial quantities that the whole scheme utterly failed. It was found that the duration of the stone in the heat zone was not long enough for the chemical process of separating the gases which produced a large amount of core; or, if the process was retarded longer, badly overburned lime was invariably the result. We hear of similar experiments in this country from time to time, suggested no doubt by the successful burning of Portland cement in this type of kilns. The two propositions are not similar and lime has never been burned in a horizontal kiln to our knowledge on a profitable basis. Statements to the contrary have been made of late, but we observe no general adoption of any such innovation by those who have fortunes invested in lime-producing plants, and who are the best judges of developments that carry a profit. There is nothing new about the idea; it is merely one of the things that won't work. It looks possible to the casual observer, but a whole lot of very expensive experimentation will be necessary before all the reasons for and against the success of rotary burning of lime can be known. Even then it may only be applicable to one solitary sample or narrow classification of lime rock.

## Lime for Fluxing.

By AN EXPERT.

The problem of substituting lime for limestone in the various fluxing operations in metallurgical work has engaged the earnest attention of iron and steel chemists and metallurgists in general for a long time.

From a theoretical point of view and from the standpoint of laboratory deductions, such a substitution seems highly desirable, on account of cumulative advantage that should result from the elimination of all inert material in the fluxing agent.

It is well known that the oxides of calcium and magnesium are the only essential fluxing constituents in limestone. In addition to these, there are found in limestone, as it occurs in nature, varying proportions of other elements which are either inert as far as fluxing is concerned, or perhaps positively detrimental to the object to be accomplished.

Fluxes are employed for the purpose of uniting with silica, sulphur, phosphorus, etc., in the ore the impurities in the ore or metal and the calcium and magnesium oxides at a high temperature forming a compound that is known as slag and fusible at a comparatively low temperature.

This slag, which is of lower specific gravity than the molten metal, flows from the top of the metal through taps in the cupola or furnace hearth, and it is drawn off at intervals as frequently as may be necessary. Lime which is absolutely infusible at the highest temperature obtainable, when heated in the presence of certain other elements, undergoes partial fusion and enters into various chemical combinations with other elements.

Neither the intense heat of the oxygen-hydrogen flame nor the fierce heat of the electric furnace which readily volatilizes the most refractory metals has the least tendency to promote the fusion of calcium oxide ( $CaO$ ).

The facility with which lime enters into chemical union with other elements is beautifully exemplified in the electrical production of calcium carbide ( $CaC_2$ ) by the furnace method. Lime, the most refractory heat-resisting substance in nature, when finely pulverized and mixed with coke in the same condition, readily exchanges its oxygen for carbon in the electrical furnace.

The fact that both constituents are finely pulverized and well mixed may furnish an important suggestion to the metallurgist who is concerned with all that pertains to the science of fluxing.

In laboratory practice, pulverizing and thorough mixing are deemed important requisites in successful work, and the use of pulverized lime, instead of coarse lime, in fluxing operations appears to be in line with up-to-date practice.

Nothing has been said thus far as to why lime should possess greater advantages than limestone for fluxing purposes. It has been stated in what precedes that the fluxing may and often does contain material that is either inert or prejudicial in metallurgical operations.

Limestone consists essentially of calcium carbonate ( $CaCO_3$ ), of which lime ( $CaO$ ) forms 56 per cent and carbon dioxide (formula  $CO_2$ ) forms 44 per cent.

Limestone, therefore contains 44 per cent of an inert compound, which possesses absolutely no value for metallurgical work.

In other words, the party that receives 100 cars of such material for fluxing work is obliged to discard forty-four cars after having recourse to a very expensive process of elimination.

The difficulties that have stood in the way of using lime as a flux instead of limestone seem to be principally due to the fact that in the reduction of limestone to the condition of lime, the process, under certain conditions, becomes a reversible one. This peculiarity is often observed in the laboratory during the reduction of the oxalate to the condition of the oxide in the crucible, this being made apparent by the fact that the crucible and contents appear to get heavier, if the applied heat is not intense enough to promote reduction. This takes place only when the highly heated precipitate can absorb carbon dioxide, either from the atmosphere or from the gas that is used for fuel in effecting the reduction.

Precisely the same trouble has been experienced in the furnace, the lime absorbing  $CO_2$  and giving it up again in a hotter part of the furnace.

As it would be, a very inconsistent policy to burn limestone in a kiln and then use the quicklime as a flux only to find that it reverted to the condition of calcium carbonate in the cooler part of the furnace, and finally changed again to calcium oxide in a hotter part, it is not surprising that practical men feel conservative in the matter of adhering to old and well tried methods.

These difficulties which have stood in the way of using quicklime for fluxing purposes are being gradu-

ally overcome, and it is highly probable that in the near future, the metallurgist will allow the lime producer to furnish the finished product for use, instead of the raw stone.

The saving in freightage alone is a matter of more than ordinary importance, and in these days of extensive operation and close margins, it behoves the man, who is alive to his own interests, to carefully analyze every new proposition that tends toward a lower cost of production.

The conversion of limestone into lime will require the same number of heat units, no matter whether the stone is burned in the limekiln or in the furnace where it is employed as a flux. Where limestone exists of good quality, but a long distance from the point where it is desired to use it in connection with metallurgical work, there should be a very marked advantage in reducing the weight of the freighted product 44 per cent. The items of fuel and labor are frequently very much less in such localities and to summarize, it seems that the use of lime as a flux instead of limestone is destined to result in mutual advantage to the lime producer and to the metallurgist at the same time.

Only one instance is known to the writer in which the change from limestone seems to be a pronounced success. This is in a plant of more than ordinary size and while details are not available in regard to methods of operation, there is not the least doubt but that the change is a complete success.

A change from the old method to the new method should be based on a thorough investigation of all attending conditions, relative prices, points of supply, etc., as such a proposition might possess very decided advantages in certain cases and under certain conditions, and yet not be of practical application in a universal way.

It is so well understood that a high calcium lime or stone is desirable for fluxing that no reference has been made to that part of the matter, nor to freedom from sulphur, phosphorus and silica. It is the trend of this article to present the status of lime as a fluxing agent against limestone, the old-time process.

## The Dust Spray.

ROCK PRODUCTS is in receipt of a copy of the *Pacific Rural Press*, containing a very interesting article under the above heading, which is herewith reproduced in part. It is generally believed by manufacturers of hydrated lime that there is room for an extensive educational campaign among the farmers of the country as to its value and use for fertilizing purposes. The article referred to is by J. P. Dargitz, a fruit grower of Acampo, Cal., and recites his experience in the use of dry or dust spraying. Mr. Dargitz prefaces his story with the remark that he has nothing to sell along this line, and no particular object to accomplish other than the common good:

When I became a fruit grower, some five years ago, I was introduced to the lime-sulphur-salt method, which had been in vogue in a portion of our orchards for a good many years. It seemed to be very effective, but was extremely disagreeable to handle. It was also quite expensive, on account of the usually soft condition of the soil, the heavy weight of water and the wagons necessary to haul over the orchard. At the State Fruit Growers' Convention held at Hanford in December, 1906, my attention was first called to the idea of dust sprays, and I saw at a glance if it was effective it would prove a great saving to the fruit growers of California, and I began to inquire at once. I found that Mr. A. N. Judd of Watsonville had been using it on his apple orchard for several years, with excellent results. I immediately ordered a machine, and also some dry materials, and prepared for work.

The lime-sulphur-salt spray had given us very good results, as I have said, but had never entirely controlled the curl-leaf on our peaches. We had a large almond orchard of over two hundred acres which had never been sprayed, and the peach moth larvae had become so bad in it that the 1906 crop showed 40 per cent worm-eaten. The red spider had also proved quite serious for a year or two before this. We never had had the almond blight in our orchards here before 1906, but we had had the peach blight bad enough to make the 1905 crop very poor on some of the trees, and almost a total failure on those trees in 1906. In the last of February, 1907, the almond blight made its appearance, and in four days it had spread over about thirty acres and caused the trees to look as if a fire had gone through the orchard. The peach moth larvae became very hungry in consequence, and as often as a bud showed very promptly ate it up. This continued for some two or three weeks, when in desperation I sent some twigs to the Experiment Station at Berkeley, appealing for some information that would enable me to save the trees. The reply indicated as above. Having just finished dusting our peach orchard, I turned the machine loose on this almond orchard and dusted all of it. In two weeks we had a beautiful green foliage on the trees, which continued all summer, and set a fine crop of buds for the 1908 crop. We dusted some 200 acres of Sugar and Giant shipping prunes, and were able to ship as fancy packed green fruit to the East in 1907, 90 per cent of the crop, which was very unusual. On that portion of our almond orchard which had never been sprayed before, we dusted once for the 1907 crop, and it showed 10 per cent worm-eaten, as against 40 per cent the year before. In the month of December, 1907, we dusted as a preventive of almond and peach blights some 300 acres, and had practically no blight this year. In February of this

year we dusted again to catch the peach moth on almonds. In March we dusted the peach and prune trees for the same purpose. What was the result? After harvesting nearly eighty tons of almonds, twenty tons being shelled, not a single worm-eaten nut was found in the entire crop. I do not think there was a single worm-eaten prune, and we sold over 135 tons of dried prunes and shipped several cars of green prunes. No curl-leaf and no blight.

Now perhaps someone will say that the unusually dry year had more to do with these results than the dust spray. Possibly that is true. I thought that we were going to have a sure and certain test this year, because some blocks of fruit were treated with various well known liquid sprays comparable with others which had the dust spray. But all seemed to give equally good results, and we therefore conclude that if the dust did no good then neither did the others. If it was weather in one case, then it must have been weather in the others, and I have the advantage, this once at least, that it did not cost me one-third as much as it did the others.

We have used the dust spray on about 500 acres all told now for two years, one a very wet year and the other a very dry year, and with entirely satisfactory results so far. We shall continue to use it, at least until we are shown very certainly that we are making a mistake in doing so.

What dust did we use? The "Vigorite" brand of hydrated lime from the Holmes Lime Company of San Francisco. We tried hydrating some ourselves, but it is a very dirty bit of work, and expensive. We can buy it all ready powdered cheaper. We have used a dry powdered preparation of bluestone, called Sal Bordeau. Then we have used various brands of sublimed sulphur.

We use lime dust for a carrier in place of water. It is much lighter, and has some other advantages, in that it keeps your chemical poisons as a mixture, instead of several solutions forming when water is used. For the same reason it takes much less material. Every bit of the poison you use is available when applied in the dry form, while in the wet form it is largely rendered inert by careless preparation and the consequent formation of several insoluble compounds, which are practically worthless. Anyone can mix various forms of dust without spoiling it. However, there may be certain pests which will not yield to it. Time will tell.

Mixtures used: For the blights, both peach and almond and curl-leaf, we used 40 pounds of lime, 10 pounds of sulphur, and 2 pounds of the Sal Bordeau. This makes a good treatment for two acres, and costs about 80 cents per acre, including mixing charge and putting on the orchard. For the peach worm larvae and the codlin moth we added one pound paris green to the above amounts, which raises the expense about 25 cents per acre. I think, however, that the Sal Bordeau could be left out where no blight exists. It is a fungicide.

To all appearances the dust acts as a valuable help in the carrying of pollen if used when the trees are in bloom. It can be used with perfect safety at such a time. Many of our almond trees had limbs four inches in diameter broken with the weight of nuts this year. I understand others had a similar experience. Mr. Judd, of Watsonville, says there is no mistake but that the dust does help to pollinate his apples if applied when they are in bloom. This might be food for thought by all orchardists.

Two men and two horses, with a machine like mine, driven by a one and a half horse-power engine, can spray from thirty to forty acres in ten hours, and one man will mix the dust in half a day for that much work.

In conclusion will say that dust spray may not be any better than the various wet sprays, but if it is as good it is worth your attention, as a matter of economy, and the possibility of applying just when needed. A question has been raised about its sticking qualities in a dry climate. On this point I would say that the only secret about its sticking anywhere is to be sure that your material is fine enough to float in the air, and it will then stick to anything that it touches.

I do not want to be understood as having settled this spray matter fully, but as still experimenting, yet thoroughly satisfied as far as I have gone. Would be glad to know what it is doing for others who have given it an unbiased and fair trial.

## Sale of Lime Plant.

BUENA VISTA, VA., Jan. 1.—The Rockbridge Lime and Stone Company, whose executive offices have been in this city and the works at Lexington, has been sold to several Lexington capitalists. The majority of the stock was owned by E. L. Embree, of this city.

The gentlemen interested in the new concern are: W. E. Davidson, J. M. Davidson, M. D. Campbell, Benj. Huger, E. A. Sale, M. B. Course, W. E. Turner and J. A. Harper, all of Lexington. Mr. Turner will be the general manager of the new concern and Mr. Harper will have charge of the store. C. S. Adams, of Adams Bros.-Payne Company, Lynchburg, who has been vice-president of the old concern, has retained his interest and will still be an officer of the new company.

The Rockwell Lime Company has been incorporated in Chicago with a capital stock of \$2,500, of which \$1,500 is represented by business and property in Wisconsin. Joseph Kelly, Manitowoc, is the Wisconsin representative.

The Muncie Stone and Lime Company, of Muncie, Ind., has been incorporated to produce and deal in stone and lime. The capital stock is \$25,000. The incorporators are C. A. Hendington, E. S. Milligan, C. B. Milligan, C. W. Milligan, W. E. Milligan, R. R. Milligan and Scott W. Milligan.

The Campbell-White Lime Company, of Jefferson City, Mo., has been incorporated with a capital stock of \$20,000. The incorporators are: Thomas Hogan, William J. Murphy and Francis X. Campbell.

# QUARRIES

## International Road Congress.

Consul-General Frank H. Mason, of Paris, gives the following account of the First International Road Congress which recently met at the French capital:

"In the long list of international conferences which have taken place during the past year at Paris, none has attracted so large and distinguished a corps of delegates or commanded such general and absorbing public interest as the First International Road Congress, which met on October 11 and continued its sessions throughout the subsequent week.

"The official representatives and other delegates represented twenty-three nations, and included military and civil engineers, highway superintendents from state and local governments, presidents and other officers of good roads associations, prominent automobileists, and a full representation of progressive, enterprising men who are interested in road improvement as an essential measure of public policy. They represented countries with varying local conditions, spoke in many languages, and related widely different experiences and opinions, but they were unanimous in declaring the question of highway construction and maintenance to be one of the most urgent and important subjects now pressing upon their respective governments.

### SUBJECTS FOR CONSIDERATION.

"The work of the congress was divided into two general sections, viz., construction and maintenance and traffic and working of highways.

"The first section dealt with the following subjects: Methods of construction and cost of various forms of existing roads, macadam, metalizing, asphalt, wood, stone and other surfaces, the best methods of repairing roads and streets which are in continuous use, various processes for preventing dust, and proposals for future road construction.

"To the second section was assigned the task of considering the effects of motor vehicle traffic on public highways, damages caused and the relation thereto of weight and speed, road signals, and the best means of regulating motor traffic by an international code of laws.

"These two main sections were divided into subsections, to each of which were assigned separate topics, and the discussions proceeded with great zeal and interest from day to day, the programme being varied by automobile excursions throughout Paris and to various points within a radius of fifteen or twenty miles to inspect different forms of pavements and roads upon which modern methods of surfacing have been used to repair the wear of motor traffic and for the suppression of mud and dust. Delegations also visited the works of the Paris municipality, where wood paving blocks are cut and prepared, and made excursions to Versailles and to Fontainebleau, where studies were made of the construction and maintenance of park and forest roads. Finally the whole congress went by special train to Nice for the purpose of examining the mountain roads in the hills to the northward of Nice and Monte Carlo and the seaside highways of the Riviera, where oil and tar have been longest and most successfully used for the suppression of dust.

### SOME GENERAL CONCLUSIONS.

"It is only possible to summarize in briefest form some of the more important conclusions which were reached by this notable gathering of experts in road construction and maintenance. Among the resolutions adopted was one affirming that motor vans, drays, delivery wagons, and other vehicles used for commercial purposes cause no serious damage to highways so long as (1) the average speed is not more than nine miles an hour and the maximum speed does not exceed fifteen miles, and the weight on the heaviest axle does not exceed three tons, with tires of India rubber, or (2) when the average speed is six miles an hour and the maximum nine miles, the weight on the heaviest axle when working not exceeding four tons, the driving axle to have metallic tires with smooth faces.

"The same resolution declares that the weight on the driving axle should be restricted to three tons and the pressure on each centimeter of width of the tire should never exceed 150 kilos (330 pounds). It was the opinion of the congress that properly built roads are not injured by motor vehicles traveling at any pace not exceeding fifteen miles an hour, and

there was a general sentiment among the delegates that before the whole problem can be satisfactorily solved, legislation will be necessary to compel motor vehicles to be built with governing devices which will prevent them from being driven above certain well-defined rates of speed.

### THE QUESTION OF TARRED ROADS.

"The question upon which was concentrated the most acute discussion and which brought out the sharpest diversities of opinion was the use of coal tar as a surfacing material for roads to prevent erosion from rapid traffic, protect the roadway from infiltration of water, and for the suppression of dust. On this subject the delegates were somewhat sharply divided, with the advocates of tar—when properly applied—somewhat largely in the majority.

"It was maintained by the opponents of tarred roadways that tarring is only a temporary and therefore expensive expedient; that it reduces but does not wholly suppress dust; that the tar is ground up by steel-shod motor tires, and being mixed with ordinary dust is irritating and injurious to the lungs; that it kills trees and other vegetation along roads on which it has been used; and that cattle refuse to eat grass in pastures and meadows upon which tar-impregnated dust has settled from the adjacent roadway.

"The advocates of the tarring process maintained, on the contrary, that when properly applied in warm, dry weather to a well-built road with a good surface and free from flooding or subterranean infiltration of water tar forms a cheap and excellent protective surface which not only minimizes the wear of traffic upon the roadway, but practically suppresses mud and dust. It is not denied, however, that on heavily traveled thoroughfares the only really satisfactory method of application is by mixing the crushed rock or other surfacing material with tar or asphalt to the depth of two inches or more. This being laid on a good concrete and rubble foundation and rolled down hard and smooth forms the best surface for a macadamized road in all weathers and seasons that has yet been devised. Moreover, it is claimed that the complaints about the dangers of tar dust to lungs, trees and vegetation are more or less imaginary and have been exaggerated by newspapers and by persons interested in other road-surfacing materials. However this may be, the congress finally adopted a resolution approving the use of tar when properly laid under favorable conditions.

### EXHIBITION OF MACHINERY AND MATERIALS.

"A highly interesting and practical feature of the congress was the exposition of materials, processes and machinery for road building, paving, street cleaning, etc., which was opened and maintained throughout the week on the terrace of the Tuilleries Gardens, upon which stands the building known as the Jeu de Paume, which served as a headquarters for the conference and working rooms for the various sections.

"Here were displayed in endless variety the stone, gravel, concrete, asphalt and paving blocks of wood, granite, basalt and other materials which are used for road and street making in France and other European countries, besides a large number of patented combinations of materials and special processes for laying them. Profile maps, photographs and models of noted French, Swiss and Belgian quarries of road-making crushed stone and paving blocks were shown. Implements and machinery, from a simple pickax to the ponderous motor street sweeping and sprinkling cars, were crowded in the limited space, side by side with colossal steam rollers, scoring machines to scarify the surface of roads under repair, and a dozen varieties of equipment for melting tar and distributing it evenly over the surface of roadways. This part of the exposition was of especial interest to the American delegates, who conceded that Parisian motor cars for street sweeping and sprinkling are superior to anything of the kind in use in the United States.

### LESSONS DEVELOPED—PERMANENT ORGANIZATION.

"Not less instructive were the various sections of roadway exhibited, showing the materials and method of construction from foundation to surface, and it may be said that the one fundamental lesson which was most conclusively enforced, not only by the exhibits but by the discussions and reports of the congress, is the indispensable necessity of sound, thorough construction from the bottom upward. No surface, however costly or well laid, can long stand the wear of traffic and weather unless the foundation on which it rests is solid, firm, well drained and free from the upward filtration of water.

"The climax of the proceedings was the adoption of a resolution by which it was decided to create a permanent organization for the improvement of road building and maintenance in the countries represented at the congress. It will be known as the Standing International Road Congress Association,

and will have a permanent working commission, made up of the president and vice-presidents of the general board and of the same officers of the several sectional committees into which the congress was divided. The headquarters of the permanent commission will be in Paris, and each country will be represented by two of its members. The first work of the standing commission will be to draw up regulations for the main association and preparing for the next international congress, which will take place in Brussels in 1910."

### Improvements in Crushing Plant.

John Bichler, Groos P. O., Mich., writes under date of January 12 as follows: "As to the details of our improvement here we have purchased from the Austin Manufacturing Company, Chicago, a No. 5 and No. 3 gyratory crusher, with all machinery to operate it, such as elevator, screens, etc. We installed for power a 100 h. p. electric motor for operating the two crushers and the automatic cars feeding the No. 5 crusher. It will be an up-to-date crushing plant and the bins will hold about three cars of rock.

"We have a first quality rock, clean and suitable for concrete work and road-building purposes.

"Our plant will be completed within two weeks. The No. 4 Austin jaw crusher will be moved to another quarry we have here, where we had a No. 2 jaw crusher. It will be operated by a 30 h. p. motor, which we installed there last summer."

The report of the United States Department of Agriculture on a test of the rock from this quarry is as follows:

Report on sample No. 1,846 of road material from Delta county, Michigan.

Material: Dolomite.

### DETERMINATIONS.

Specific gravity	2.80
Weight per cubic foot (pounds)	173
Water absorbed per cubic foot (pounds)	6.39
Per cent of wear	3.4
French coefficient of wear	11.6
Hardness	16.5
Toughness	12
Cement value	Good

A dolomite of average hardness and toughness slightly above the average in resistance of wear, for dolomite, and with good cementing value. Suitable for use on medium traffic roads.

### An Electrically Operated Shovel.

For quite a number of years power shovels operated by electricity have been in successful operation in different sections of the country, for such work as digging ballast for electric railways, dry placer gold mining, etc., but until recently no accurate records of the cost of work done by such shovels has been attainable. The Vulcan Steam Shovel Company, Toledo, O., give some accurate records of work done by one of these shovels for the Chautauqua Traction Company, Jamestown, N. Y. This company is using the shovel for digging ballast for their road.

Before giving the records of the cost of this work it might be well to first explain the equipment of this shovel, as there are many people who are interested but not at all familiar with this type. The shovel complete weighs about forty tons. The car body is twenty-seven feet long by six feet eight inches wide and is mounted on standard railroad wheels. It is equipped with one and one-half cubic yard dipper, which has a clear height of lift with door open of twelve feet. It will make a cut at level of rails of twenty-six feet and will dump out twenty-one feet six inches either way from the center of the shovel. It is equipped with three separate motors, one for hoisting the dipper, one for swinging the crane and a motor on the crane for crowding the dipper into the bank. All motors are of the regular railway type, variable speed, D. C., 600 volts, 700 r. p. m.

One of the principal objections to an electrically operated shovel by people not familiar with their construction and equipment is that in hoisting the dipper through the material it will frequently strike hard material which would stall the motor and burn it out, or on the other hand, if the motor was of a size to have sufficient strength to stand such strains without burning out it would tear the dipper to pieces and would ultimately reduce the entire machine to wreckage. The following shows how this objection is met and overcome in the construction of the shovel described above. The main or hoisting motor is 75 horsepower and is provided with an automatic magnetic controller, and a circuit breaker which will throw off the current as soon as the motor has exerted its maximum safety power, and will thus prevent any harm to the motor. The important feature, however, is the series overload relay with which each motor is also equipped and which is to the motor what a governor is to a steam engine, and as soon as the dipper meets any obstruction in the shape of hard material or boulders, which would have a tendency to stall the motor, this overload relay auto-

matically relieves the motor of the excess current and prevents it being overloaded or burning out, no matter what the conditions of service are.

Another objection to the electric shovel is in connection with the swinging motor, as when the crane or boom of any shovel is being swung it requires a momentum which if not checked in some way causes it to drift around too far and thus is liable to do considerable damage to the structural part of the shovel. On a steam shovel this drifting motion is counteracted by slightly reversing the engines. The steam acts as a cushion and allows the crane to swing around easily for the last few feet of the swing, when a little more steam admitted stops it altogether. On the electric shovel this momentum is taken care of by the solenoid brake, the clutch of which is thrown in by springs. When the current is turned on the swing motor it is automatically turned on to the mechanism of the brake also and forms a magnet which throws back the springs. Thus as soon as the power is applied to the swing motor a magnet is formed which releases the brake so that the swing of the crane is free to respond to the motor. As soon as the current is cut off it of course cuts off the magnet and the springs are free to throw on the brake, which absorbs the shock of the momentum, bringing the crane to an easy stop at any desired point, and without any reverse power being exerted by the motor. The swinging motor is 30 horsepower and is also safeguarded with circuit breaker, etc.

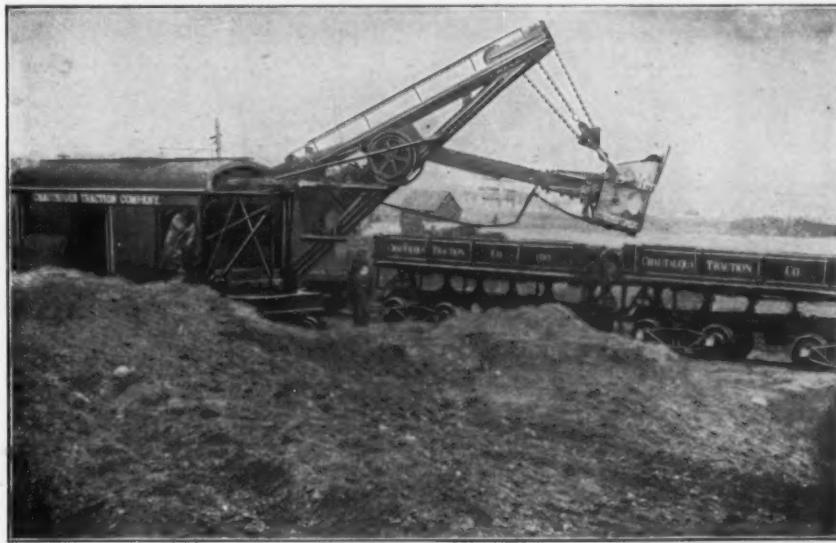
The crowding or crane motor is 30 horsepower and is provided with automatic controller, circuit breaker, overload relay, etc., and is safeguarded much in the same manner as the hoisting motor. In addition to

several causes for this, the principal ones being, first, that as the shovel required no boiler, the cost of a fireman and of hauling coal and water was eliminated; second, that the work of the shovel was so intermittent and when the shovel was idle no power was being consumed as would be the case with steam shovel where they must keep the steam up just the same. The shovel could have been operated to its maximum capacity, which would have given twice the yardage, at nearly the same cost as the men had to be paid, whether they were working or idle, and the additional cost for power would not have been more than twice what it was, which on the same basis would mean 1,068 yards at a cost of \$10.24, or \$0.00958 per cubic yard.

Where the electric current is available this is the logical machine for quarry work, as a battery of these shovels could be operated from a central power plant. The saving thus effected is obvious. The machine described above was manufactured by the Vulcan Steam Shovel Company, Toledo, O., which company will equip any sized shovel they build with motors, and their electrical apparatus, either A. C. or D. C. current, and will guarantee them to be as efficient in every way as a steam shovel.

#### Crushing Niagara Limestone.

Two miles from Lewiston, N. Y., at Queenstown Heights, Ontario, Canada, is the stratified limestone quarry of the Power City Stone Company, Sims & Boyle, proprietors. The quarry has been in operation only about two years, yet in that time it has forged to the front and is now selling its product



VULCAN STEAM SHOVEL AS DRIVEN BY ELECTRICITY.

this, however, it is provided with a footbrake, which is operated by the cranesman so that even should the circuit breaker be automatically thrown out as the result of overloads or other causes the footbrake is still capable of holding the dipper at any point desired.

It will readily be seen from the above description of the electrical equipment that the electrically operated power shovel is in every way as safe and its action as easily controlled as a steam shovel. The cost of this work is shown in the following extract from a letter to the manufacturers, the Vulcan Steam Shovel Company, Toledo, O., from A. N. Broadhead, president of the road: "A short time ago we placed an ammeter and volt-meter on the shovel for the purpose of ascertaining cost of operations per hour, and hand you the enclosed memorandum. Of course the shovel did not work constantly during this time, owing to the shortage of cars. If we had been able to keep the shovel at work without a letup, we feel sure the cost per hour would be materially reduced."

#### COST OF POWER AND HELP.

Yardage, per hour.....	\$0.66%
One man .....	.55
One man .....	.25
Two men (15c).....	.30
20.346 K. W. hrs. at .0088c.....	.18
Oil and waste estimate.....	.04
 Total cost per hour.....	 \$1.10
8 hours at \$1.10.....	\$8.80
8 hours at 66% cubic yards.....	534 cubic yards
\$8.80 divided by 534 cubic yards.....	.0164 cents

The material they were digging was a mixture of gravel, sticky clay and sand, which made it hard to dig, but as will be seen from the above figures, the cost of this work was very low. There are of course

are emptied into the cars for transportation by gravity.

They have been selling 300 per day, but when spring opens up and their new crusher is at work their capacity will then be 1,000 yards per day, and A. H. Cropp, the manager of the quarry, assures us that they have no doubt but that they will have a ready sale for their entire output. Mr. Cropp also informed us that all that section of Canada through which they operate is not only in a most prosperous condition but that construction is most active, and that the entire community, railroads, trolley systems and business men, have all awakened to the importance of crushed stone and the many uses to which it can be put. He is enthusiastic over the possibilities that lie before his firm and predicts great developments in the future.

The offices of the Power City Stone Company are located at Niagara Falls, Ontario, where Messrs. Sims & Boyle look after the many interests that they have embarked.

#### Rebuild on Larger Scale.

C. H. Burgess, whose stone crushing plant at Blue Stone, Ohio, just east of Cleveland, was destroyed by fire some weeks ago as the result of forest fires caused by the long drought, is rebuilding the plant to begin operation again in the spring. It will be on a more extensive scale throughout and more modern than the old one. Mr. Burgess supplies crushed bluestone for concrete.

#### Crushed Stone For Barge Canal.

Casey & Murray, contractors, Rochester, N. Y., have secured a large rock cut contract from the barge canal. They will erect a rock crushing plant at Little Falls, N. Y., where the rock excavated will be crushed.

#### Good Prospects For 1909.

C. H. Davis, of Blue Springs, Neb., states that business this year has been only about half what it was last. However, he looks forward to a good season in 1909. The Union Pacific has just added over 1,000 feet to Mr. Davis' trackage and he is grading for the extension of his Burlington switch.

#### Secures Stone Quarries.

LEBANON, Pa., Jan. 9.—The Warwick Iron and Steel Company has taken over the stone quarries of the Bassler Limestone Company, the transfer being made this week at Philadelphia. For several months the Warwick company has had an option on the place and had a diamond drill at work to learn the quality of stone to a depth of 100 feet. Vast improvements to the property are to be made. The name Bassler Lime Stone Company will be retained, and C. Bertram Funek will continue to be the superintendent.

#### Prosperous Year For Quarries.

NEHAWKA, Neb., Jan. 3.—The Nehawka stone quarries have just closed a prosperous year. The output of the quarries has been, in round numbers, 4,000 cars. This included crushed rock, riprap and smelter stone, about three-fourths of it being crushed. The outlook for the coming year is thought to be good, and a strong force of men and teams are being put to work stripping stone for next year's operations.

#### Stone Business Improving.

COLUMBUS, O., Jan. 12.—W. O. Taylor, general manager of the Casparis Stone Company, says that business at the quarries is picking up materially and that within a short time the local plants will be back to a normal production. The starting of iron and steel mills at Mingo has caused a large demand for the products of the quarries and the Western and Southern plants of the company have been for some weeks running practically to full capacity.

The Wallen-Gumz Quarry Company has been incorporated in Milwaukee, Wis., with a capital stock of \$5,000, by Frank Wallen, R. H. Gumz and Charles Liefert.

The Michigan Trap Rock and Granite Company has been incorporated at Detroit, Mich., with a capacity of \$10,000.

The United States Stone Company, of Chicago, has purchased the quarries and crushing plant of the John O'Laughlin Stone Company near Racine, Wis. It is said that other good stone properties have recently been acquired by the same concern.



### Elect New Officers.

NEW YORK, Jan. 18.—The International Employing Plasterers' Association of this city held its annual election at its new meeting rooms, 67 West One Hundred and Twenty-fifth Street, on Wednesday evening, January 13, and the following officers were elected for the ensuing year:

President, John McCahill; vice-president, F. C. LoMonte; secretary, John Waters; treasurer, P. Grassi.

Business agent, John F. Niebuhr, and William Wales, J. C. Krause, Charles Gallo, Thomas F. Malia, P. Salvatore, John Steron, George Anderson, William H. Caldwell, Jr., and A. Kiesel were elected members of the executive committee.

The International Employing Plasterers' Association, No. 2, of the City of New York, Borough of Kings and Queens, will receive their charter from this association on Wednesday evening, January 27.

### Rousing Contractors' Meeting.

Thomas J. Mannion and a large delegation of members of the International Employing Plasterers' Association, No. 1, New York City, visited the International Employing Plasterers' Association, No. 2, at Brooklyn on January 14, and the two associations together had a rousing meeting. A number of new members were enrolled. P. Fraser, president of the International No. 2, writes regarding the meeting as follows: "The results are very gratifying. We have enrolled a number of new members at every meeting we have held. The members all certainly looked as if organization was good, and the speeches proved that

since the organization was formed, about four months ago, conditions changed for the better. Members of No. 1 are to be congratulated on their wise selection of officers. A better set of officers I have never met. They have a business agent who is a wonder. Just the man to represent an association such as our trade warrants and we invite all associations of employing plasterers to get in touch with No. 1."

### New Headquarters.

The International Employing Plasterers' Association, No. 1, has vacated its rooms at 74 West One Hundred and Twenty-sixth Street, New York City, and moved into Colonial Hall, 67 West One Hundred and Twenty-fifth Street.

Ernst Jahn has the contract for the plaster work in the Auditorium Building in Milwaukee, Wis., at a cost of \$49,481. Mr. Jahn also has the contract for the plaster work in the new Milwaukee Normal School. Some of the buildings in which Mr. Jahn did the plaster work are the Public Service Building, the Enterprise Building, the West Side High School Building, and many other school structures of the city of Milwaukee.

The Imperial Plaster Company, of Toronto, Can., have torn out their hydrating plant and will reinstate it at Guelph, Ont. They have a very fine magnesian, veritably the best in Canada. At Cayuga, Ont., they have extensive gypsum mines, working two shafts and producing sixty tons per day. The capacity of the plaster mill is eighty tons per day. Harry W. Calkins is manager and director of all the works.

The Pacific Plaster Manufacturing Company, Seattle, Wash., has been incorporated with a capital stock of \$25,000. The incorporators are George C. Kretzinger, Lee Fortner and C. A. Schneider.

The Keystone Plaster Company, of Chester, Pa., started up its plant on the first of January, after having been idle for some time.

### SWITCHBOARD OF LIVE WIRES.

#### Is the Splendid Sales Organization of the United States Gypsum Company.

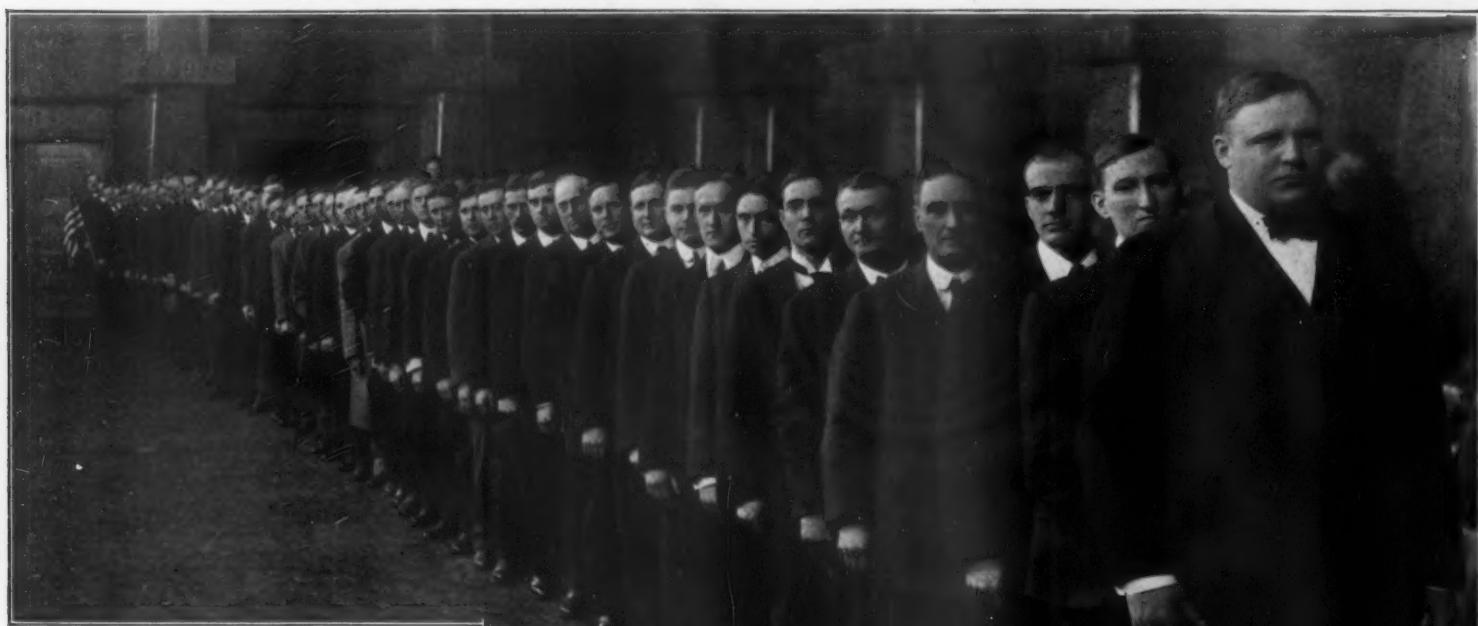
On January 6 the salesmen of the United States Gypsum Company met in Chicago for their third annual sales convention. Seventy-five men (whose territory practically covers the entire country) gathered at the main office of the company and were made acquainted with the modern methods employed to facilitate the handling of orders and shipments. Business sessions were held morning and afternoons for three days, and the word "expansion," as applying to the many various usages of gypsum was frequently heard. Each man was given an opportunity to state conditions as he found them in his territory, and explain how he had met these conditions in an endeavor to promote sales.

It is evident from the talk of all these men that they were firmly impressed with the superior quality of the company's products, and numerous instances were recited wherein quality alone decided the kind of material to be used.

The operating department added to the instructive features of the program by stereopticon views of the various mines and mills owned by the company, located in nearly every accessible gypsum center in the United States. The salesmen were impressed with the advantages accruing to their company through the modern equipment designed by its own engineering force, and the economic distribution of its manufacturing plants.

A very interesting feature of the convention was a demonstration of Sackett Plaster Board and Gypspine studding as a cheap, light, fireproof partition; it was shown how this partition saves time in building, and labor cost in lathing, as well as being fireproof, and a sound deadener.

It was explained to the salesmen that hereafter the sale of plaster partition blocks would not be confined to the salesmen of the fireproofing department, but all would be permitted to sell this material. This an-



Captain Quincy's Gallant Firing Line.

Joseph Andress, H. W. Blockson, H. W. Caton, H. F. Dorchester, C. Downing, G. D. Elwell, C. A. Erwin, T. H. Elwell, J. J. Gorman, J. E. Hayes, O. H. Himmelright, H. K. Hobart, H. B. Jewett, T. W. Johns, C. S. Leighton, B. W. McCausland, E. W. Riegel, W. E. Shearer, W. W. Shearer, C. E. Skean, C. F. Skimp, Carl E. Spaulding.

H. A. Bly, M. M. Briggs, W. P. Carver, G. C. Chambers, A. J. Cummings, F. W. Farrington, H. F. Frey, R. B. Holcomb, W. P. McCormick, G. R. Murray, W. H. Newman, H. E. Reynolds, D. V. White, A. E. Winter, F. R. Winter, C. W. Young.

R. E. Bangham, F. S. Beard, S. H. Beard, G. H. Booth, Bruce Chenoweth, W. D. Collins, A. B. Cook, F. Duffy, A. H. Hains, C. Helversen, George M. Lee, G. L. Lavelle, G. L. Lincoln, R. J. Mason, T. J. McGrath, P. S. Pettele, W. H. Price, J. H. Princeton, C. C. Quincy, J. G. Sampson, H. J. Schmoeger, W. H. Stoltz, A. Van Roo, L. L. Watson, H. B. Webster, W. McMaster Widde, H. R. Weeks.

S. L. Avery, E. G. Alm, W. R. Appleton, S. F. Bartlett, R. G. Bear, E. H. Belcher, C. R. Birdsey, A. W. Dowler, Emil Durr, R. Elliott, S. Q. Fulton, W. G. Hannan, S. S. Jenkins, O. H. Knode, W. D. Lindsey, S. T. Meservey, S. S. Meservey, C. G. Root, W. G. Schlotterbach, C. E. Williams.

Charles H. Eastwick, F. G. Ebsary, J. G. Ketcham, G. N. Lencl.

THE SALESMEN'S CONVENTION OF THE UNITED STATES GYPSUM COMPANY.

nouncement met with the unqualified approval of all the men, as they feel the real advantages in plaster blocks as a fireproofing material. It was stated that during 1908 nearly 2,500 miles of blocks were erected in buildings scattered across the country from New York to Salt Lake City. The development of the plaster block business during 1908 is considered remarkable in view of the decrease in the number of fireproof buildings erected. The block has many advantages over terra cotta tile, and it was demonstrated that plaster blocks were actually as cheap a fireproofing material as old-fashioned tile.

The social side of the convention, while secondary, proved a delightful diversion from the daylight sessions. Wednesday evening the boys gave a smoker, and much enjoyment was derived from the entertainments which were supplied entirely by the salesmen. Thursday evening they attended the theater en masse, and the convention closed Friday evening with a banquet at the Chicago Athletic Club, and the feeling engendered in all the men must have sent them back to their respective territories to begin another year's work with added interest and enthusiasm.

The United States Gypsum Company has contributed much towards modern building construction, and particularly the use of gypsum as a fireproofing material. The constant growing demand for their various products gives evidence that builders are not slow in appreciation, and it is not strange that they advertise:

**Lease Gypsum Mill.**  
The American Independent Gypsum Company, of Fort Dodge, Ia., write us as follows:

"The American Independent Gypsum Company has leased its mill, trademarks, and good will to the Aeme Cement Plaster Company, of St. Louis, Mo., who will maintain its office and continue to operate the plant at this point, to manufacture and sell to the trade the well-known brands of 'Independent,' 'Apex' and 'Aeme' plaster."

The Mackey Wall Plaster Company have recently erected a modern and up-to-date plant at Great Falls, in the state of Montana, and although they have only been in operation for a little over a month they are already doing a business which exceeds their utmost expectation. They have a capacity of ten tons of finished plaster per hour, or in other words can turn out 240 tons in a day's run of 24 hours. The brand is known as the "Quality" brand and the company are informing their many customers that it will ever be their endeavor to supply a plaster which will be everything the name would imply.

The new mill of the Jumbo Plaster and Cement Company, near Salt Lake City, Utah, was opened on January 3, in the presence of more than a hundred citizens of Richfield and Sigurd. The mill has three sets of rolls by which the gypsum is crushed, a rotary crusher, a French burr mill and two calcining kettles

# CEMENT

## Among the Chicago Cement Men.

CHICAGO, ILL., Jan. 20.—Conditions among the local Portland cement manufacturers are most excellent. All indications point to an early strong demand and the market is in a most gratifying condition. Trade at present is rather quiet, owing to the fact that no large jobs can be undertaken now on account of weather conditions, but prospects are so good that all are extremely optimistic. The present situation is all that can be expected, however. Orders are heavier than they were during January, 1907, or in January, 1908. Although these are comparatively small, they are sufficiently numerous to keep the demand active.

Construction is expected to be extremely large all during 1909, and now no enterprise of any magnitude is conceived of in this line without cement being considered in connection therewith. The railroads used a much less quantity last year than they should have done to keep their beds in proper condition, owing to the stringency in the money market. Now this condition no longer exists and the probabilities are that an immense demand can be counted on from this source. Country roads are beginning to receive the attention they deserve and when once our country awakens to this imperative need the quantity of cement that will be used is inconceivable. Much in this direction will be done this year, however. The city railway, too, has many miles of reconstruction to accomplish, which will add greatly to the call. Besides all this, many big jobs are being considered. Building will be rife and from all indications and data received from architects, contractors, etc., Chicago will experience the biggest building boom in years. A number of the manufacturers saw these conditions confronting us some time ago and this year their capacity will be much larger. Another gratifying feature is the firmness in price that is prevailing and the prospect for an early advance. All manufacturers are unanimous in this and the consensus of opinion is that 1909 will be a magnificent year.

The Marquette Cement Manufacturing Company, offices Marquette Building, state that at the present time trade is very quiet, but that the prospects are exceedingly bright. All the indications point to the fact that as soon as weather conditions permit the market will be active and strong. Even now inquiries are being received in round numbers and some contracts have been closed. Their cement will be used in the construction of the People's Gas Building, which is to be erected at the corner of Michigan Avenue and Adams Street. This will require from 20,000 to 25,000 barrels and is a nice contract to secure during the off season. Six months or more ago they anticipated the increased consumption of cement and the return of prosperity to this branch of the building trade, as cement now is being used largely in every building project, and began to enlarge their plant. By July 1 additional machinery and equipment will be installed, which will increase the total investment to more than \$2,000,000. Their works are located at La Salle, Ill. Twelve years ago they were turning out only 500 barrels per day; today their output is 4,000 barrels, a 25 per cent increase over their capacity for last year, while by July 1 6,000 barrels per day can be secured from them. These are the largest cement works in the state of Illinois. They run day and night and nothing is allowed to stay or stop their operations. The company is controlled and directed by William and Theodore Dickinson, of Chicago, who are the western pioneers in the cement industry. No one should better understand the situation for this section of the country than these gentlemen, who from small beginning, many years ago, have now become one of the main factors in the manufacture of cement. The enlargement of their plant and the many and expensive improvements made recently by them prove most conclusively their confidence in the betterment of conditions and the stability of the prosperity that lies before us. It is needless to add that they expect most excellent conditions to obtain during 1909 and that they predict, speaking through Gold Williams, the coming year will be a good one for all engaged in the manufacture of cement.

J. P. Beck, speaking for the Universal Portland Cement Company, offices Commercial National Bank Building, states that trade is quiet just at present; that they are only now starting their salesmen out on the road and that a number have not even left for their different territories yet. They look for a strong, active demand and that prices will become stiffer and



THE HISTRIONIC TALENT OF THE UNITED STATES GYPSUM COMPANY.

"This country is being plastered with the Products of the United States Gypsum Company."

A farcical program was arranged for Wednesday evening, January 6, at the private theater of the Auditorium Hotel, which brought forward all of the histrionic talent of the sales force. The pony ballet was a hit, and some of the nice young ladies who performed could hardly be recognized through their disguises. The wording on the program was a work of art, a terrible gale was booming over Lake Michigan during the entire performance. Of course none of the participants know why, but a careful focusing of the contours on the psychological weather maps of that evening clearly shows that the shades of the late P. T. Barnum and Adam Fourbaugh, together with those of all their departed poster writers were green with envy and agitated lest their classic laurels might be forgotten.

The Southern Wall Plaster Company has been incorporated in Louisville, Ky., with a capital stock of \$15,000. The incorporators are A. J. Bannon, E. J. Kellres and F. Jeffers.

The National Gypsum Company has been organized in Blue Rapids, Kan. The promoters of the enterprise are G. A. Johnson and Dr. J. W. Evans, both of whom have been interested in the plaster business at Council Grove.

of seven tons' capacity. There is also a mixing room and a storehouse connected with the plant. The average run of the mill will be 112 tons of plaster every twenty-four hours, the value of which will range from \$5 to \$20 a ton. About thirty men will be employed. A large deposit of gypsum has been opened about a mile from the mill. Later a tramway to the deposit will be built. The plant is being managed by Benjamin Bickel, of Alva.

The Napoleon Pulp Plaster Company, Napoleon, O., has been incorporated by M. E. Loose and others with a capital stock of \$10,000.

The John J. Roberts Company, of New York City, has been incorporated for plastering, lathing, etc., with a capital stock of \$25,000. The incorporators are John J. Roberts and William Roberts, 841 President Street; John W. Braid, 136 Hewes Street, all of Brooklyn.

The Samson Plaster Board Company, of Newark, N. J., has been incorporated to manufacture plaster and plaster blocks, with a capital of \$7,500. The incorporators are William A. LeBrun, 18 West Twenty-seventh Street, New York City; Frank A. Keith, 763 Broad Street, Newark, and Welcome W. Bender, Elizabeth, N. J.

## ROCK PRODUCTS

firmer as the season advances. Never have indications been better. He thinks the demand will be much greater than it was last year, and that they will be compelled, in consequence, to run their mills to full capacity. This capacity is now 6,000,000 barrels yearly, but they are increasing their plant at Universal from 4,500 barrels daily to 10,000 barrels per day, and when No. 5 is complete, January 1, 1910, their entire output will be 8,000,000 barrels per year.

They state that they have secured no big orders lately, as none have been let, but that inquiries are plentiful and from now on they expect conditions to improve. Last year was a good one for them, not only here in Chicago and surrounding territory, but also all over the country, and yet Mr. Beck states that in his opinion 1909 will see not only a greater demand but that prices will be better and more stable. He is confident that the cement industry is in a flourishing condition and predicts good times for all during 1909.

Edward Cox, speaking for the German American Portland Cement Works, whose offices are in the Marquette Building, states business conditions at the present time are good, although trade is quiet; that prices are becoming firmer and that he looks for an active spring demand. Shipments are away ahead of this time last year and as for December sales, they received three times the amount of orders that were placed with them in December, 1907. Their capacity will be about 10 per cent larger this year than it was during 1908, and Mr. Cox says that he thinks there will be little difficulty in disposing of their entire output, which is over 1,000,000 barrels per year. He states that the railroads used comparatively little cement last year, but expects them to take more than their regular quota during 1909. He also looks for an advance in price of from 15 cents to 25 cents per barrel and does not think that this advance will be delayed until late in the season. Their stock on hand now is comparatively light, not near so heavy as in January, 1908, but sufficiently heavy for this time of the year. They are accumulating stock every day and will be in a position to meet all demands when the expected rush comes. He is much pleased with the situation, and although they have placed no large orders recently, inquiries have been sufficiently numerous to give him, he thinks, a line on conditions. He predicts that the next six months will be good ones, with an active, firm, advancing market.

William Cobean, sales manager for the Wolverine Portland Cement Company, whose offices are in the Chamber of Commerce Building, states that all indications point to a good, big year's business, that they are receiving a great number of inquiries and that the buyers are beginning to wake up to the fact that they will soon be wanting cement. The demand for immediate delivery is very light just at present, as no construction is now being undertaken and no new big jobs are in the course of erection. Yet there are such a number of manufacturing buildings, churches, etc., on the boards that the call for cement will be so active as soon as weather conditions permit, that the market will immediately respond. Although business is quiet, Mr. Cobean says that it is better than it was a year ago and that December's sales were far ahead of those made in December, 1907. Their capacity will be the same this year as in previous years, 3,500 barrels per day, and if it were larger, he thinks they could easily dispose of it. Prices are firmer now than they have been for some time past, and he looks for this condition to continue. They are exceedingly sanguine over the future outlook and predict that the demand will be much greater this year than it was during 1908. As the volume of trade last year was very gratifying, if prices are advanced and maintained, and the volume increased during 1909, this year's sales must then carry out Mr. Cobean's prediction that the present year will be a good, strong one, sufficiently so to satisfy all.

J. U. C. McDaniel, of the Chicago Portland Cement Company, offices 108 La Salle Street, Stock Exchange Building, states that trade at the present time is quiet and is liable to continue so until spring, or until the weather becomes settled so that building and construction can be undertaken. The same conditions prevailed last year, only now the indications are for a far greater demand and he looks for a good spring business. Prices are becoming firmer and he says that there will not be the cut-throat market that existed all last year. Their capacity will be about 200,000 barrels more this year than last, which was 1,000,000 barrels at that time. Mr. McDaniel says that they have placed no big orders recently, that he has not heard of any being placed and that he does not expect any to be placed in the immediate future, but that the regular amount of business that is generally received at this time of the year is coming steadily to them. The Chicago Portland Cement Company are very sanguine over the future outlook. They state that they expect 1909 to be a good year, that it will excel the year just closed in volume and as the market is even now firmer, when spring opens up they

predict that there will be a sharp advance in price, and that prices will be maintained throughout the year.

The Sandusky Portland Cement Company, offices 519 Chamber of Commerce, state through Fred J. Morse that business conditions at the present time are very good, that their plant is exceedingly busy and that they look for a good spring trade. January has been an excellent month for them. They have sold some nice quantities, no especially large orders being taken, but the demand has been steady and they are much pleased. Mr. Morse says that there is a firmness about the market that is gratifying in the extreme and as soon as weather conditions permit he thinks the demand will increase with a jump. He states that last year the railroads only used about 60 per cent of the quantity of cement that they generally do and in consequence he thinks the demand from this source will be exceptionally heavy during the present year. Early spring should see this work under way, and contracts may be negotiated now at any time. Up to date the railroads have not been hurrying themselves and although some inquiries have been made by them, Mr. Morse says he has not heard of any contracts being closed. The street railway also has much work to do repairing their roadbeds and their needs will be no small item. Building construction of all kinds gives every promise of being exceptionally large during 1909 and from all these indications Mr. Morse says that they expect a good, big year ahead of them at good prices. He is enthusiastic over the future outlook and as one can readily see is in love with his business.

George de Smet, sales agent for the Vulcanite Portland Cement Company, office 317 Chamber of Commerce, states that trade is fairly good, that the weather conditions are such that one cannot expect the demand to be as heavy as it will be a little later on, but that business is all that can be looked for now. All indications point to a strong, good market and when spring opens up he thinks business will be exceedingly gratifying. Prices are stiffening and an advance will surely come early in the season. He states that there is an enormous demand for cement in sight, that inquiries are beginning to be received and that they are working to secure their share, which they undoubtedly expect to do. They intend to run their mills to full capacity all the year, and although they make 5,000 barrels per day, Mr. de Smet thinks there will be no surplus at the end of 1909. Vulcanite and Berkshire Snow White are so firmly entrenched, he says, that their friends insist on these brands. He counts on good year's business and says from all indications the present year will be a much better one than the last, that more cement will be required, that prices will be firmer and higher and that all the cement manufacturers will be in a magnificent condition when 1910 is ushered in. In speaking of his Dehydratine, his great waterproofing compound, Mr. de Smet says that trade is excellent, that he has lately closed three large contracts and that January business already is much larger than that secured in January, 1907, or January, 1908. The tone of the market is such that he anticipates a large and increasing demand and the indications are that trade will be good and strong all through the year.

Meacham & Wright Company, whose magnificent offices are at 206 La Salle Street, are always on the job when anything is doing in the cement line. However, it is the off season and shipments consequently are inactive, but there is plenty of business on the horizon of their very extensive operations. Both Fred Meacham and Frank Wright, of this firm, will have to go to the Louisville convention—that much is settled—and only a doctor's certificate would be accepted as an excuse. Sully (otherwise Mr. Sullivan) gained much fame at the Chicago convention last year, and he may embrace this opportunity to visit relatives in Louisville also.

### The Cement Industry in 1908.

Edwin C. Eckel, of the United States Geological Survey, estimates the total production of Portland cement last year at 40,000,000 barrels, a falling off of more than 8,000,000 from the high-water mark of 1907. He cites as the cause of this the much discussed business depression that was reported in some sections of the country during the early part of last year, including some of the most important commercial centers.

The Southwestern Portland Cement Company, El Paso, Tex., announces that its mill will be completed by June 1. It will have a capacity of 1,200 barrels per day.

The head offices of the Carolina Portland Cement Company, Charleston, S. C., have been removed into sumptuously furnished quarters on the second floor of the Carolina Savings Bank Building.

At a meeting of the stockholders of the Castalia Portland Cement Company in Pittsburgh recently, it

was decided to run 50,000 barrels per month the year round.

The annual meeting of the Humboldt Portland Cement Company, Humboldt, Kan., was held on January 6. The directors were instructed to contract with the Freeborn Construction Company, of Kansas City, Mo., for the construction of the plant. A. D. Kendall, Mound Valley, Kan., president; John W. Berry, Humboldt, Kan., secretary.

President Robert W. Lesley, of the American Cement Company, in his report to the stockholders, says:

"The year just closed has been one of comparatively light demand and low prices in the cement industry. It is, therefore, a source of gratification to the management that sales have been only 15 per cent less than in 1907, which was much the largest year in the history of the company, and that even at the low prices at which this diminished output had to be sold, it has been possible to fully maintain the high physical condition of our properties, pay interest and sinking fund charges, distribute 6 per cent in dividends to stockholders and yet carry a small balance to surplus."

The income account for the year has already appeared in these columns.

### Remove Headquarters to Cincinnati.

The Superior Portland Cement Company will remove the executive offices from Charleston, W. Va., to Cincinnati, O., February 1, and will occupy handsomely furnished rooms on the fifteenth floor of the Union Trust Building. C. F. Harwood, sales manager, is now in the Queen City making all arrangements. He will move his family there in the near future. President Justus Collins informs us that he will remain in Charleston at least for the present.

This change is deemed advisable since it will put the office closer in touch to all the leading cities of the central states.

### Yes, There Are Good Times Ahead.

A strong sentiment of improvement in the conditions for the coming season pervades the cement industry. Not a man in the business can be found who does not feel that steady markets will prevail in 1909. It is quite clear enough now that much of the low quotations of last year did not do anybody any good. Certainly the cement manufacturer got no advantage, nor did the retailer or even the consumer. The low price was never a good business getter, and this has been no exception to the rule. The goods is always worth its cost and a profit besides. There is no doubt that many quotations were misrepresented last year, but anyway it was bad enough. No such state of affairs can be expected again. There will probably be no very high prices right away, but cement will advance promptly and stand firm and strong during the whole season ahead of us. This means a lot to the manufacturer at the starting point and will reach to every branch of the industry like a blessing. There is no business elixir comparable to steady, strong markets resting upon sound prices.

### Officers of Concrete Company Elected.

A large delegation of the officers and stockholders of the Crescent Portland Cement Company left Pittsburgh on Monday, January 11, to attend the annual meeting of the company at Wampum, Pa., about fifty miles from this city. The meeting was held at the offices at the new plant which is being built, and which is rapidly nearing completion. The election by the stockholders resulted in the selection of the following board of directors: W. J. Prentice, George W. Hackett, David M. Kirk, A. C. Smith and Jacob Friday, all of Pittsburgh; R. H. Hughes and John Wallace, of New Castle, Pa., and C. M. Hughes and J. Sharp Wilson, of Beaver, Pa. The board of directors then elected W. J. Prentice, president; R. H. Hughes, vice-president and general manager; C. M. Hughes, treasurer; J. Sharp Wilson, assistant treasurer, and R. H. Hughes, secretary.

After the election a luncheon was served at the plant, and in the afternoon a complete tour of inspection was made to note the progress being made. The plant is nearly all under roof, and in several of the buildings much of the machinery has been installed, although there is much to do yet. Four of the kilns have been completed, the boilers are all in place, and the coolers have been about finished. Two of the large engines which will supply power to the entire plant have been set up and are ready to start at any time, and the tube mills are all on the ground, and being placed in position as rapidly as possible. The ball mills are also in position. A large reinforced concrete stack nine feet in diameter on the inside, and 175 feet in height, has been completed and is one of the largest stacks of the kind in this part of the country. The railroad sidings have been built, and connection

made with both the Pennsylvania and the Pittsburg and Lake Erie Railroads. The rest of the work is to be rushed, and the officials of the company advise that they expect to place the plant in operation on or about the first of May of this year. The old plant, which is in the immediate vicinity, is being operated, but when the new one is completed the capacity of the company will be increased about 200 per cent.

## A MODERN PLANT

At the Pennsylvania Portland Cement Company, One of the Leading Operators In this Country.

One of the aggressive operators in Portland cement in that great Lehigh Valley, where 50 per cent of the production of the United States is carried on, had as a foundation experience in Rosendale cement operations a training which gave him the advantage of a personal acquaintance with the engineer, contractor and dealer, and familiarity with handling the materials for producing and marketing the well-known Pennsylvania brand, which has been popularized by its admission into some of the largest construction operations in the East.

W. N. Beach, the head of the Pennsylvania Cement Company, after his early education in that industry, finally built a Portland cement mill in the Lehigh Valley, increasing it until today it is one of the most modern and best equipped mills in the industry.

The officers of this company are W. N. Beach, New York City, president; A. H. Alker, vice-president; Robert E. Bonner, secretary and treasurer; Morris Fortuin, mill manager; W. P. Gano, chemist; W. W. Bale, sales manager. The general offices are at 26 Cortlandt Street, New York, where the officials make their headquarters.

The capacity of the plant is 3,500 barrels daily, operating the dry process and burning coal.

The plant is located at Bath, Northampton County, in the Lehigh Valley, the company owning some 350 to 400 acres of cement rock. The deposit of rock on this property is a natural composition of the highest grade Portland cement, it very seldom being necessary for the company to make any addition of clay or limestone to rectify the composition.

In the quarrying of the rock this company drills holes seventy-five feet deep, five inches in diameter, there being as many as twenty-nine holes to a blast, in which from six and one-half to seven tons of dynamite are used, shooting down 75,000 tons in one blast. The stone is then handled with a sixty-ton "Atlantic" steam shovel, loaded into ten-ton cars and these cars are hauled up an incline to a No. 9 Gates crusher and dumped automatically. From there the stone passes through a screen, the tailings passing to a No. 5 Gates crusher and from there to the Ruggles-Coles dryers, from the dryers to Jeffrey hammer mills, and from the hammer mills to the stone storage bins. There are six bins, having a capacity of 1,000 tons



ART EXHIBIT OF THE PENNSYLVANIA CEMENT COMPANY IN THE CEMENT ASSOCIATION PERMANENT EXPOSITION, BRUNSWICK BUILDING, NEW YORK.

each. From the bins the material goes to the raw mill and is ground by Gates ball and tube mills and Raymond pulverizers from the raw mill to the kiln building.

In the kiln building there are installed six 125-foot and three sixty-foot Mosser kilns. From the kiln building the material passes out to the clinker storage, the clinker being handled in and out by an eight-ton Shaw electric traveling crane, this crane having a capacity of 10,000 barrels a day. The clinker is picked up by a Haywood clamshell bucket as it comes out from the kiln room, deposited on a pile for aging, the bucket then picking up aged clinker and depositing it in the dryer room. From there it goes to the finishing mill, which is equipped with the Gates ball tube mills.

The power plant consists of the raw and finishing mill, having compound, condensing Wetherill and Dixon engines of 1,500 horsepower each. In the kiln

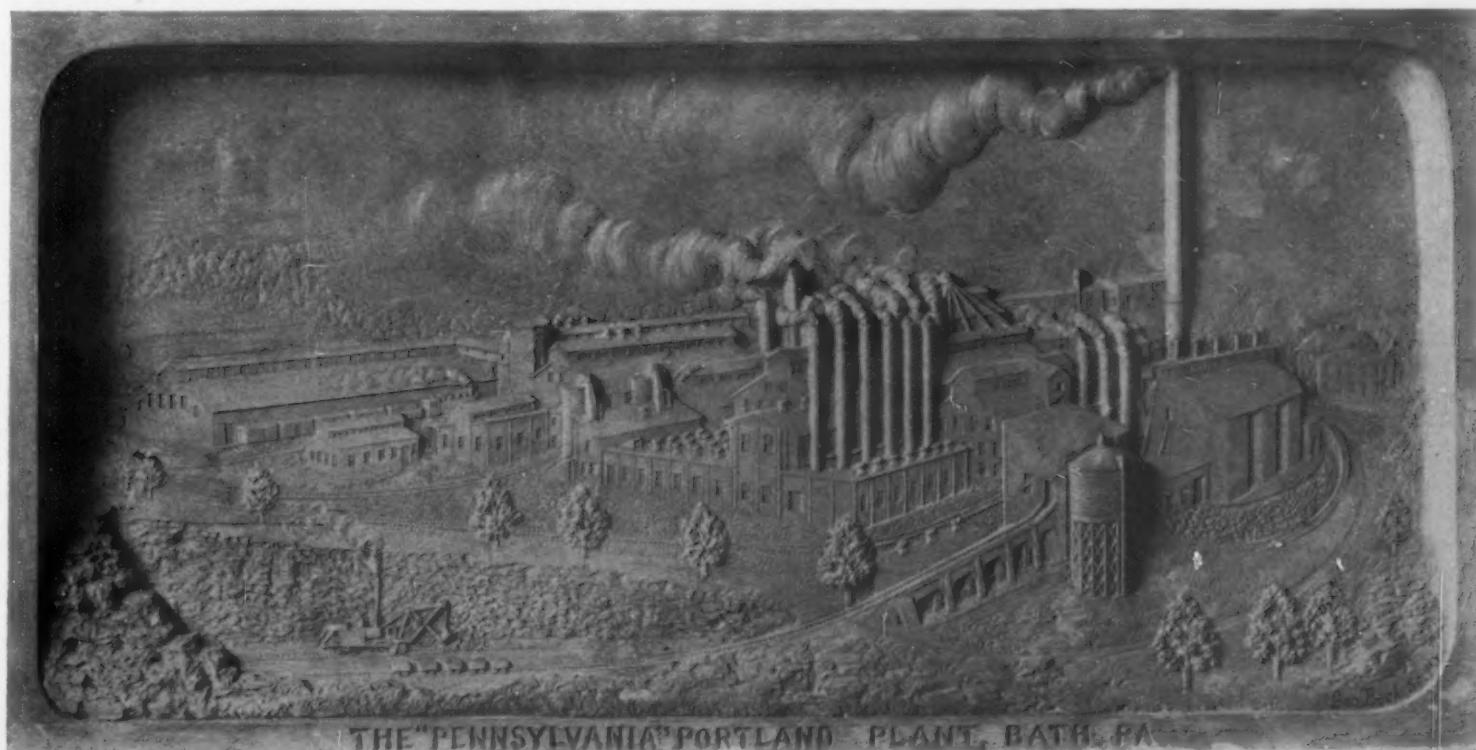
and coal mills there are two single condensing engines of 500 horsepower, either one of which is capable of driving the kiln and coal mill.

The boiler house contains seven Franklin boilers of 250 horsepower units.

The coal is unloaded by machinery to the boiler house, and also to the coal pockets for the kiln house. These coal pockets are built of reinforced concrete, there being a storage capacity of 2,000 tons of gas slack coal and 1,500 tons of boiler coal.

Nearly the entire construction work of this plant is of reinforced concrete, the stone bins being forty feet in the air, twenty feet in diameter and fifteen feet below ground. The boiler smokestack is 208 feet high, made of reinforced concrete under the Weber system.

The kiln buildings are also of reinforced concrete. The photograph shown is one taken of a bas-relief of the "Pennsylvania" plant made up in cement,



## ROCK PRODUCTS

## THE O. K. BRAND.

## The plant of the Oklahoma Portland Cement Company, Its Product, Its Equipment and the men who run it.

this being the only one that has ever been made out of cement. This bas-relief was designed and executed by George Beck, of New York City, one of the leading cement workers in the country.

The stock house is 400 feet long, with a capacity of 150,000 barrels.

The other picture shows the exhibition maintained by the Pennsylvania Cement Company at the Concrete Association's exhibition at the Brunswick Building, New York, N. Y.

The capacity of the plant of the Pennsylvania Cement Company is in the neighborhood of 3,500 barrels a day.

Inasmuch as this cement is manufactured from a rock that is of the natural composition, this cement runs absolutely uniform in quality.

The "Pennsylvania" cement has been furnished to some of the largest and most prominent construction work in the country. The Whitney dam, built by the T. A. Gillespie Company at Whitney, N. C., was built entirely with "Pennsylvania" cement. The Blackwell's Island bridge approaches, on both the New York and Queens sides, built by the Snare & Triest Company, were laid with the "Pennsylvania" cement. The cement has been used by nearly all of the large railroad systems in the East, large quantities of it having been furnished to the New York, New Haven & Hartford Railroad, the Delaware, Lackawanna & Western Railroad, the Erie Railroad, the New York, Westchester & Boston Railroad, the New York, Susquehanna & Western Railroad. A number of large reinforced concrete sewers have been laid with the "Pennsylvania" cement, and it has been supplied to very important foundation work. The O'Rourke Engineering & Construction Company, of New York City, have had extraordinary success with this cement in deep foundation work, and now use it exclusively.

The following is a partial list of some of the works to which this cement has been supplied:

Power house, Port Huron, Mich.; electrical conduits, etc., St. Clair tunnel, from Port Huron, Mich., to Sarnia, Ontario; filtration plant at Pittsburg, Pa. The dock department work in New York City has used them for the past four years.

They also furnished the cement for the reinforced concrete buildings of the Orford Copper Company, Bayonne, N. J., some eight buildings in all, which have roof girders with a span of fifty-four feet center to center. The cement was also furnished for the Traders' Paper Board Company's plant at Bogota, N. J., which is of reinforced concrete; the residence of J. R. Steer, Belle Haven, Conn., for concrete blocks and reinforced work; the Pugh Building at Cincinnati, Ohio; reinforced work in the Statler Hotel, Buffalo, N. Y.

The Pennsylvania Cement Company has furnished the Weber Steel Concrete Chimney Company (now the Weber Company) with cement for use in the construction of about ten or fifteen reinforced concrete chimneys at various places, prominent among which are two built by them at the plant of the American Locomotive Company, Dunkirk, N. Y.

## A Happy New Year.

BY "JERRY" KENDALL.

A glittering mirror  
And polished bar,  
Myriads of glasses,  
Straws in a jar,  
Kind young man  
All dressed in white,  
Were my recollections  
Of last night.  
Sidewalk narrow,  
Far too long;  
Sloppy gutter,  
Policeman strong;  
Slamming door of  
A jolting hack,  
Were my recollections  
Of coming back.  
Heated interior,  
Revolving bed;  
Seasick man,  
Aching head,  
Fizzles and cocktails  
And drinks galore  
All emptied on  
My bedroom floor.  
And in the morning  
Came those bags of ice  
So necessary to  
This life of vice.  
And when the ice  
Had eased my pain  
Did I swear off?  
No, got drunk again.

The first Portland cement plant to be constructed and commence operations in the State of Oklahoma is that of the Oklahoma Portland Cement Company, whose mill is located at Ada.

It first commenced operations in January, 1908, and has turned its wheels continuously since that time and produced a material which has met with uniform satisfaction by all of its users.

The mill was designed and built by the men who are now its officers and are operating it. Each man takes a particular pride in the mill, and it is seldom one will find an institution conducted so harmoniously as this one is. The head of each department is an experienced and capable man in his line, and well fitted for the branch of the work which comes under his jurisdiction.

A. L. Beck, president, is well known in the lime industry, and until the organization of this company was the controlling factor in the Mitchell Lime Company, at Mitchell, Ind. Mr. Beck is a man of considerable executive ability, and the greater part of the success of the company is due to him. He is a practical man in manufacturing and as head directs the work of the entire organization. The high esteem and regard each employee of the mill has for his director is one of the indications of a successful man.

The vice-president of the company is C. C. Bishop, of Chicago.

The secretary is George Keiss, who directs the selling end as well. Mr. Keiss is well known and is a great booster.

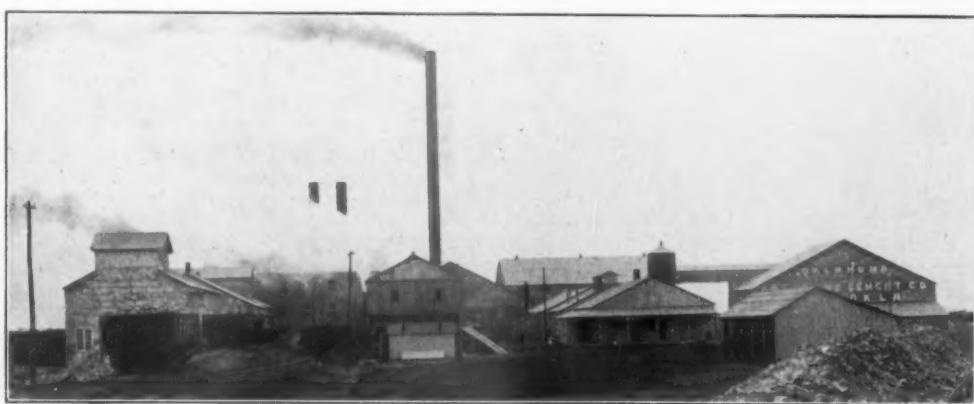
The shale is brought from the quarry and dumped on the ground near the crusher house. An underground belt conveyor carries the shale to the dry pan, which was manufactured by the Frost Company. The material is shoveled on the belt to have a uniform feed into the dry pan. This is the only place in the plant where the material is handled by anything but mechanical means. The clay is then conveyed to the dry storage. The storage capacity when full will run the plant for two weeks.

The dry materials are then elevated to a hopper and measured by actual weight to their proportions and in batches of 4,500 pounds. The mixed ingredients then drop into a Jeffry Manufacturing Company hammer mill and are conveyed to the Fuller-Lehigh mills, of which there are six of thirty-three-inch size for the raw grinding. From these mills the material is fed into two 125-foot Mosher type kilns and burned to clinker.

Pulverized coal is used for the burning and the slack coal is put through a dryer, after which it is reduced by two Fuller-Lehigh pulverizers in the coal house, and the pulverized coal conveyed to the kilns.

The clinker is conveyed by bucket elevator to the cooler and comes out a uniform product, as nice a clinker as the ROCK PRODUCTS man has ever seen. A belt conveyor takes the material as it comes from the cooler to the outside for seasoning. A 240-foot underground belt carries the clinker to the finishing department, where it passes through three sets of Chalmers-Williams rolls and is reduced to a smaller size in each set. It is then elevated to the Fuller-Lehigh pulverizers for the finishing. There are seven mills for this work, three forty-two-inch and four thirty-two-inch.

From the grinding department the cement is elevated and carried to the bulk storage house, which is a new building 100x100 feet and just nearing completion. The capacity of this is 60,000 barrels of cement.



PLANT OF THE OKLAHOMA PORTLAND CEMENT COMPANY, ADA, OKLA.

The treasurer of the company is J. W. Wintersmith, who is well known in cement circles, as he was for many years connected with the J. B. Speed Company, of Louisville, Ky.

William L. Whitaker is the general manager, and is the man who looks after the mill and manufacturing end. Mr. Whitaker was for many years manager of the Lehigh mill at Michell, Ind., and it was he who drew the plans for the Ada mill.

The mill is located about one mile from the town of Ada, and on the line of the Frisco System and Oklahoma Central, as well as a connection with the M. K. & T. Railway. The plant covers about ten acres of property.

The quarry is located about five miles from the plant, and the materials, limestone and shale, are brought to the plant twice a day by the trains.

The mill has a 2,000-barrel capacity, and when it was built arrangements were made to double the capacity, so that an increase can be made without requiring new buildings.

Each department is in a building of its own, though the entire plant is connected. The buildings are of concrete construction on expanded metal lath.

By the arrangements of the machinery the elevating and transporting devices are the most simple and economical that can be planned. Thus the materials are quickly and easily handled from the time they enter the mill as limestone and shale until they come out the finished product, "O. K." Portland cement.

The limestone is dropped from the cars into the McCullum No. 6 crusher, and onto a belt to the storage bins. It is then conveyed to the Ruggles-Coles Company dryers and the moisture removed. The dryers are operated by an individual electric motor and oil is used for fuel. From the dryers the dry material is elevated to the storage, which are bins 120 feet long.

Beneath the storage house are four tunnels, through which run spiral conveyors. The material will be spouted on the conveyor and carried to the packing department, where it is sacked and loaded on the cars.

The power plant consists of two engines, Bates-Corless type, with about 1,000-horsepower capacity. The larger one runs the line shaft which furnishes the power to the entire finishing department. The smaller engine runs the generator for the dynamos.

In the boiler house there are four sets of Sterling boilers with a combined capacity of 1,400-horsepower. The fuel used here is oil. The water for the plant is pumped by two Gardner pumps, which regulate the flow of the water. They now have two sources of supply, so that if one fails the other can be used. The city reservoir furnishes the water, but connection is also made with the river a short distance away.

The oil for the fuel is brought in tank cars to the plant and pumped into the storage tank, which has a 7,000-barrel capacity.

The machine shop, where repairs on broken parts of machinery are made, has a lathe and full equipment run by a small electric motor.

The blacksmith shop contains the forges and full stocks.

The company recently had Richard K. Meade, of Nazareth, Pa., make some tests of their product, and in his report he says: "By referring to the physical test it will be seen that the tensile strength of the cement, both tested and with sand, is excellent. The cement is also ground considerably finer than is ordinarily required by specifications. The setting time of the cement is normal. This insures sufficient time being given before the cement hardens for the workmen to properly mix and tamp the mortar, and also trowel off the surface of the work done with it."

# CEMENT USERS AT CLEVELAND.

Fifth Annual Convention of the National Association Exploited Every Important Feature of the Great Concrete Industry—Educational and Successful.

CLEVELAND, OHIO, Jan. 16.—All the week this city has been filled with the members of the National Cement Users' Association. Eminent engineers and architects, leading contractors and enterprising manufacturers have crowded the hotel lobbies, the headquarters of the convention being at the Hollenden. The cement show or exposition of machinery and products of concrete was held in the Central Armory. Nearly all of the prominent builders of machinery had operative exhibits, while the great cement manufacturing establishments kept open house continuously. Richard L. Humphrey, of Philadelphia, the president of the association, with an able organization selected from the best talent in the United States, was leader of the great annual event, and presided at nearly all of the sessions in the convention hall. His administration was cordially indorsed in his re-election for the fifth time to the presidency.

The papers and their discussion constituted a comprehensive education on the subject of the uses of cement to date, while the exposition was no less enlightening from the practical workers' standpoint. Many of the exhibitors succeeded in doing considerable business by taking orders for machinery and materials, and others "lined up" a lot of good prospective orders.

Every space in the big Central Armory was filled, and even the balcony above the main floor was more than half filled with exhibitors. Some of the exhibits were extremely artistic in design and executed for the most part in concrete. These will be referred to in detail in another place.

Monday night at the exposition was an invitation affair to the entire population of the city of Cleveland. This was responded to by a very large attendance, estimated at 5,000, and it is needless to say that all of these found many things of interest to themselves personally. The solution of the most important public problem, namely, that of building sanitary and fireproof homes for the masses, was exemplified in several ways, some of them fully worked out so as to make it a practical proposition without regard to locality. The great engineering feats of the railroads have been worked out by their own engineers, factories and large office buildings have had the attention of the leading architects and engineers, and these branches of the industry are well known to observers in all the principal cities. But the greatest of all, the new typical home for all the people, was demonstrated and offered for the first time in a satisfactory way.

The great question of good roads was discussed at length, and men of experience showed the progress in this direction that the cement users have accomplished. It is clear that the entire solution of the permanent road problem will be one of the branches of the concrete industry. The standardization of the specifications for such work is naturally difficult to make it applicable to every locality. The same difficulty is encountered in the matter of street construction. While the specifications for any given locality, with its particular available aggregate materials, is simple enough, and already successfully operative in many sections, the underlying principle is hard to recognize and crystallize into a code for national practice. The concrete street and the concrete public road is the solution of all the agitation that is now attracting public attention, with each locality having its own peculiarities provided for.

The topic of art in architecture when expressed in concrete was ably handled, and the wonderful pictorial lessons shown by the stereopticon views in this connection were not only a treat but valuable to practical men, like those composing the audience, who found there suggestions for almost every kind of artistic treatment.

Discussions on reinforcements, its proper placement and calculations, methods of working, etc., by the best and most successful engineers, was instructive and satisfying. In short, everyone who was so fortunate as to attend the fifth annual was well repaid, and the great industry that the association represents has thereby taken another well balanced forward step.

As usual, ROCK PRODUCTS issued a daily edition for the occasion, to support the efforts of the overworked officers and keep the interest of the members stirred up. Old friends and new gave that cordial recognition of our own part in the great work that was well worth the midnight candle.

## OPENING SESSION.

The formal opening of the convention on Tuesday morning, January 12, was called to order by President Richard L. Humphrey in the presence of the largest assemblage of cement users of record to date. Every chair in the convention hall was taken promptly, and very soon the standing room at the rear was filled. There is but one competent description of that audience—it was representative of the whole cement industry. It was attentive and deeply interested in the work before it.

The Rev. Harris R. Cooley, who is the director of the Department of Charities of the city of Cleveland, as substitute for Mayor Tom Johnson, delivered the official address of welcome. He gracefully extended the public hospitalities and talked interestingly of the use of concrete at the City Farm colony, which is one of the public institutions supported by the city, and attached to his own department. The sanitary and fire safety features of concrete makes it especially attractive and economical for such purposes.

George B. McMillan, president of the Cleveland Builders' Exchange, expressed the welcome of that influential organization to the officers and members of the National Association, as well as all visitors interested in the work. He mentioned the new building code now operative in the city, whereby taller buildings of concrete framing can be erected than was allowable under the old code. As a shining example of Cleveland's progress in concrete construc-

Committee on Resolutions—C. W. Boynton, E. G. Perrot, J. H. P. Perry, J. D. Foote, A. N. Lesley.

Thursday evening was set apart for the smoker and social feature.

Chairman W. W. Schouler announced that the committee on streets, sidewalks and floors had still a great amount of work to do. Accordingly this was passed over to the official proceedings of the convention, which is to be issued in book form. This report is of the first importance, because it bears upon the revision of specifications for sidewalks, and will outline specifications for concrete roads.

At the evening session, January 12, Vice President Merrill Watson presided. The room was crowded to the doors. President Humphrey read his charge to the convention, as follows:

## ANNUAL ADDRESS OF THE PRESIDENT.

In the year which has elapsed since I last had the pleasure of addressing you on subjects of vital importance to our association we find ourselves stronger and far better organized for the work of education on which we are engaged than at any time in our history. This has been a year of decided development and much progress.

Our membership has grown steadily and the attendance at our annual conventions show each year an increasing appreciation of the value of membership in this association. The members are now beginning for the first time to more thoroughly realize how helpful and how invaluable has been the information which they have acquired at each annual convention, and are now willing to openly express their thorough appreciation of this great good. There can be no doubt that the example which they set to their fellow competitors, who are not members of this association, does much to raise the standard of honest workmanship and first class construction.

The opening of permanent headquarters has more than fulfilled expectations and it has demonstrated conclusively the necessity and great value of this step. The few months since this has been accomplished has already opened up a vista of future possibilities which augers much in our campaign of education as to the proper uses of cement. The past year has been particularly fruitful in many things which will redound for the greatest good of the cement industry.

After many years of work, the Joint Committee on Concrete and Reinforced Concrete has at last agreed upon a preliminary report on rules for the use of these materials and this report will be presented at the annual meeting of the American Society of Civil Engineers next week, the annual meeting of the American Railway Engineering and Maintenance of Way Association in March, and the American Society for Testing Materials in June of this year.

Our own committee on reinforced concrete has also contributed its share and this convention for the first time will receive a report on the rules for use of reinforced concrete, and what is perhaps of still more importance, our Committee on Insurance Laws and Ordinances will present for your consideration standard building regulations for the use of this material. It is to be hoped that the association will adopt standard regulations at this convention, and these will undoubtedly do much to bring about an increasing use of this material. The report of the Committee on Insurance Rates seems almost like an endorsement of this material for building construction, particularly as it relates to structures having a high resistance to fire. These rates indicate clearly that buildings of this class are being looked upon with increasing favor, so much so that the owners of many buildings have reported that they did not deem it necessary to carry insurance, because of the fire resistive qualities of the material.

The greatest waste of timber is caused by fires, and the record of the United States is the most shameful of all the world. In 1907 the property destroyed by fire amounted to the enormous total of \$215,000,000, a per capita loss of \$2.51. Of this loss \$146,000,000 was in frame buildings and but \$68,000,000 in brick and stone. This terrible waste is not equaled by any other nation. Our per capita loss is nearly eight times that of Europe, which is reported by the National Board of Underwriters as but 33 cents for six leading companies. Under similar conditions the fire loss in this country for 1907 would have been but \$27,000,000, and \$187,000,000 would have thus been saved. Nor is this all. The United States has the finest and most efficient fire fighting apparatus and private fire protection in the world. Eliminating the loss to property destroyed in fires, the cost of fire protection for 1907 amounted to \$241,401,442. There was paid to insurance companies in excess of what they returned as losses \$145,000,000; the fire departments cost fully \$50,000,000, and private protection systems \$18,000,000. Altogether the total cost of fires in the United States during 1907 amounted to \$456,486,151; or \$5.34 per capita or nearly one-half of the cost of new building construction for the same year, estimated at \$1,000,000,000.

Confronted by such startling figures, we naturally look for the cause, and it is easy to find. This country is filled with buildings so faintly and flimsily constructed that they are a constant menace. In our large cities are thousands of firetraps, any one of which may at any time cause a conflagration that would wipe out millions of dollars' worth of property and destroy the lives of many people. Our villages and hamlets are for the most part a collection of firetraps. In many instances our theaters and assemblage halls are frame buildings on the upper floors. It is a crime against humanity to permit public assemblages above the first floor in any building that is not fireproof. It is a crime to have a public meeting place in any building that is not fireproof. The sooner the authorities are brought to such a realization of this fact as will lead to the adoption of adequate laws and their rigid enforcement, the sooner will these terrible holocausts cease.

The people of Cleveland have had one fearful lesson in the past year by the burning of the Collinwood school-



RICHARD L. HUMPHREY, PHILADELPHIA, ELECTED PRESIDENT OF THE N. C. U. A. FOR THE FIFTH TIME.

tion he referred to one eight-story reinforced concrete building that was put together at the rate of one story a week, or eight weeks for the whole job.

President Humphrey, in his happiest vein, speaking on behalf of the association, related some anecdotes and touched incidentally upon the objects and aims of the association, the work already accomplished and the vast field of usefulness still to be covered. Dignified, yet pleasantly expressed, his remarks in acknowledgment were well said.

Dr. Charles S. Huw, president of the Case School of Applied Science, spoke of the interest his institution is taking in the development of the study of modern building construction as exemplified by the concrete industry.

The following committees were appointed:

Committee on Nominations—E. D. Boyer, J. L. Councelman, B. H. Rader, George Taylor, O. U. Miracle.

## ROCK PRODUCTS

house, in which the lives of more than 150 little children were lost. While this may be charged to bad construction, those responsible for the conditions which permit such structures to exist and to be occupied for such purposes should be criminally liable. One year ago tomorrow another frightful object lesson was recorded in the fire which destroyed the Boyertown, Pa., opera house and resulted in the death of nearly 200 women and children, who were unable to escape.

Instead of profiting by these awful experiences, as would naturally be supposed, the country, after the horror of a disaster has ceased to attract attention, lapses into an indifference from which it can only be moved by another similar disaster. Scattered all over the country are Collinwood school houses and Boyertown opera houses, and these disasters will recur until these buildings are removed and our methods of construction are changed.

Numerous buildings are erected in congested centers of population in many parts of this country to which the term "fireproof" is applied under the building laws. Their occupants enjoy a false sense of security, which leads them to relax or disregard the simple precautions so necessary for their safety. In 1906, according to the census authorities, more than 6,000 persons died from burns in this country.

Deplorable and needless as is the criminal loss of life in fires, there is another phase of the question that is most serious—the enormous drain on our natural resources, resulting from the annual destruction of millions of dollars' worth of property by fire, which is not possible under European standards. Last April a conflagration at Chelsea, Mass., resulted in an insurance loss of more than \$8,000,000. Such conflagrations are possible in practically every big city in the country. The fire marshal of Ohio, D. S. Creamer, states in his annual report for 1907 that a conflagration costing \$300,000,000 is entirely possible at any time in this city of Cleveland and in your sister city, Cincinnati.

It is the construction of flimsy tinder boxes, which are not tolerated abroad, that are responsible for our excessive annual losses from fire. This country is engaged in the mad race of building up structures that are destroyed almost as rapidly, and the losses which reach such tremendous figures are preventable. These conditions are often attributed to a desire on the part of property owners to erect their buildings as cheaply as possible in order to obtain the highest return from their investment. While this may be true in some cases, I think the real reason is that we have not as yet outgrown our primitive conditions which necessarily prevailed in newly settled countries. This country has been growing in population at an enormous rate and as this density of population increases, we are forced to adopt laws covering building construction at such centers, as will properly safeguard the people. These laws result from necessity and the people themselves exert a most potent influence in their adoption. Proper, conservative and safe building laws are the result of years of experience and that is why Europe shows up to such advantage in comparison with this country.

While our building knowledge has hardly developed into a science, we are learning rapidly the methods and materials necessary to secure the safety desired. The American people are not slow in adopting improvements when once their value is established. In the last few years, we have made wonderful strides towards better construction, under the helpful guidance of the United States government. For many years the Federal officials have realized the seriousness of these conditions and the lack of knowledge concerning the properties of building materials. With the government spending \$40,000,000 annually in the construction of public works, it was found necessary to inaugurate an elaborate series of experiments, in order that the money could be expended wisely—for the government does not insure its buildings, but rather strives to make them of the highest fire resistive type.

The task of finding out the best materials for such structures was assigned several years ago to the Technologic Branch of the United States Geological Survey under the direction of Dr. Joseph A. Holmes, expert in charge. These experiments have continued up to the present time and although they have been conducted primarily in behalf of the government, the results have been given freely to builders, engineers, architects and the public generally.

In the revision of the building laws of the country, the progress has been extremely slow for the reason that a certain inertia must be overcome in removing the prejudice against changing existing laws. The influence of various interests opposed to the revision for commercial reasons, has been another factor in preventing the adoption of better laws. Adequate laws are the first essential in bringing about conditions to prevent the big annual fire losses. Laws must be enacted that will not only regulate new construction, but that will invest in the building authorities the right to condemn structures whose very existence are a menace to public safety.

This is especially true in great cities like New York where the presence of innumerable fire traps is a constant danger, which unless eliminated may some day result in a conflagration that will sweep the city. Laws, no matter how perfect they may be, can be of no real value unless they are rigidly enforced. Many existing laws if enforced, would prevent the erection of dangerous structures.

This threw the convention open for the regular morning business sessions, and the afternoons and evenings were devoted to the papers and the discussion of the same. It was found to be impossible to follow the order of the program, but the following is a list of the titles and the authors. Each of these papers will be published in *ROCK PRODUCTS* in the near future, because some of them require illustrations that are indispensable and unobtainable at the hour of going to press:

"Cost of Reinforced Concrete as Applied to Buildings," by L. C. Wason, Boston, Mass.

"Availability of Concrete for Bridges," by H. H. Quimby, Philadelphia, Pa.

"Decorative Concrete Stone," by Frederick A. Norris, Boston, Mass.

"Monolithic Concrete Wall Buildings," by Robert G. Aiken, of Chicago, Ill.

"Cold Storage Warehouses of Reinforced Concrete Construction," by J. H. P. Perry, New York.

"The Applicability and Comparative Cost of Concrete and Reinforced Concrete for Subway Construction," by Charles M. Mills, Philadelphia, Pa.

"Reinforced Concrete Retaining Walls," by A. E. Lindau, St. Louis, Mo.

"The Importance and Cost of Cement Testing," by W. Purves Taylor, Philadelphia, Pa.

"The Evolution of Concrete Reinforcement," by Harry Franklin Porter, Philadelphia, Pa.

"Cost of Reinforced Concrete Bridges, Especially With Regard to Maintenance," by E. P. Goodrich, New York.

"Methods of Attaching Shafting and Machinery in Reinforced Concrete Buildings," by William M. Bailey, Boston, Mass.

"Progress in Use of Metal Forms With Comparative Costs," by W. L. Caldwell, Canton, Ohio.

Six other papers are published in full in this number.

Reports of the standing committees were submitted, all of which cannot be published until the official proceedings in book form is completed. They are as follows:

Committee on Insurance, Laws and Ordinances, presented by Emile G. Perrot, of Philadelphia, Pa.

Testing Concrete and Cement Products, presented by W. A. Aiken, Philadelphia, Pa.

Cement Products and Machinery, presented by A. T. Bradley, chairman, Rochester, N. Y.

If concrete is employed as concrete allowing it to show on the surface exactly as it came out of the forms, board marks, etc., visible, no attempt to disguise the methods employed, the effect will seem bad to the eye of the majority of people, even though relief is given by the use of colored clay tile or other colored decoration. It is good for it is honest. That such treatment in time will become interesting and beautiful I have no doubt.

That which the eye has never seen is seldom pleasing; that which is unaccustomed suggests doubt. If, however, the fundamental laws of all the arts are followed, as the eye becomes accustomed the art and the structure become pleasing. Natural caverns, earth and ice homes were the first dwellings; later walled rude frames thatched with grass, the roof was thatched, stamped with earth. The first mud house as well as baked mud or clay, later called brick, must have been an unpleasant shock to the primitive man who had never seen this form of construction. For that which we have seen for the first time is seldom understood, the memory carrying nothing similar and with it no imagination. The rude frame thatched or walled houses must have gradually become pleasing to the eye of the primitive man as they are picturesque to the poetry of to-day. We can trace back through the ages the evolutional development of architectural thought.

The binding together of saplings with grass rope or animal skin thongs, were for the purpose of economical construction, the object being to obtain a strong support for a roof, large hewn timber being unknown. Thus we have the image which suggested the fluted stone column. The Doric frieze and cornice were reminiscences of a primitive wood construction. The trilobite (tablet with three vertical channels) suggests the chamfered ends of cross beams of three planks each. The numerous tent poles supporting the canvas roofs of the Arabs and Moors furnished the idea of the slender marble columns in myriads supporting the roofs of the mosques and caravans.

The memory translated one material to another. There was no shock, the eye being intuitively accustomed, the architecture became pleasing, and if of happy design very beautiful. But the reverse applies to the best of art and even to the educated mind should the development be relatively sudden. In instances where new and economical structural materials are discovered, such as Portland cement, the eye having been accustomed to massive construction as in heavy stone columns, the development is rapid. In reinforced concrete we do not see the source of strength. It appears to be of slender construction but when properly designed it is, in fact, as great if not greater strength. As soon as the eye becomes accustomed and the mind knows the source of strength, the slender but strong structures become beautiful.

An inhabitant of another planet if he be differently constructed, and viewing for the first time the most beautiful human being on this earth, might consider such being very ugly, not knowing that the flesh covered the bone and muscle, the sources of strength. He might not be able to understand how the being could even stand on his feet. It is so with reinforced concrete when seen for the first time.

Some of the great masters in the art of painting were unable to sell masterpieces at any price, the same canvas now being sold for fabulous sums. They had developed an original style of beautiful painting, which did not seem beautiful in their day, the painter being away ahead of his time. As the eye became accustomed art became beautiful.

To illustrate again, when we first saw our mammoth battleships we considered the lines very ugly and the ship a monstrosity, our eye having been accustomed to the old "clipper and cutter" style of vessels. Today we view these same battleships, huge, massive floating forts of enormous strength, as things of beauty.

We will skip through the Egyptian, Greek, Saracen, Roman, Gothic, etc., which are all an evolution of suggested and enlarged thought, and reach a period when a new material suddenly appears, and, strange to say, history is repeating itself in that concrete will displace timber construction. It is fortunate that we have this material during a period when our forests have not yet been depleted. Concrete is the lumber of the future, and will assist very materially in the conservation of our forests.

Concrete construction properly designed is not an imitation of either wood or stone. Its artistic treatment must be true, sincere and honest, all thought of imitation eliminated. The architectural treatment, however, should not discard precedent, but work along the lines of evolution. The original designs required will produce an edifice which at first will be mentally misunderstood, but, nevertheless, looking forward and feeling assured that if correctly designed we are working along the lines of good art, we can state positively that such structures even twenty-five or fifty years from now will be viewed as beautiful, the eye having become accustomed. If, therefore, it is beautiful then, it is in fact beautiful now. In exactly the same relation as the works of the great masters which were not considered beautiful when first painted have become wonderfully so to the eye of the present day. We might, therefore, state that in viewing concrete construction treated properly as concrete our eye is primitive as compared to the educated eye of the future.

A reinforced concrete column left without surface finish, all the board and form marks visible, is to our eye an unattractive gray color. Decorate the cap with an inlay of tile of various colors, and possibly a band or two around the column and on the base, showing that the column is left intentionally true, honest and sincere, the reverse of imitation, and you will find, as the eye is educated it becomes a thing of beauty. The unattractive gray is in reality beautiful if understood and properly combined with other colors. I have gone to the extreme in order to illustrate.

We also may work along the lines of good art by means of surface treatment which leads up to one of the forms of a true concrete architecture. The methods of economically treating the surfaces of concrete are so numerous as to give the architect a larger scope, far greater than that of any other building material, both in color and design. Among the various effects that can be produced are the numerous stucco finishes, which are well known, the exposing of selected aggregates, by which method the surface is scrubbed while the concrete is green, exposing the larger pieces of aggregates; in fact, throwing them slightly in relief, giving a rough surface of accidentally distributed various colored stones, removing all the cement color from the surface of the mortar binding together these stones, causing the mortar and the larger pieces, the  $1\frac{1}{2}$  inch sizes down to  $\frac{1}{4}$  inch sizes, to be alive with purpose and color.



ALBERT MOYER, GENERAL SALES MANAGER, VULCANITE PORTLAND CEMENT COMPANY.

Reinforced Concrete, presented by Sanford E. Thompson, chairman, Newton Highlands, Mass.

Streets, Sidewalks and Floors, presented by W. W. Schouler, chairman, Newark, N. J.

REPORT OF COMMITTEE ON ART AND ARCHITECTURE.

BY ALBERT MOYER.

*Assoc. Member American Society Civil Engineers.*

Your committee has collected a number of photographs from which lantern slides have been made, endeavoring to give equal prominence to the various classes of concrete construction which bear on the subject of Art and Architecture. The subjects have been divided as follows:

Monolithic and Reinforced Concrete Residences.

Factories and Office Buildings.

Bridges, Walls and Fences.

Concrete Block Construction.

Manufactured Decorative Concrete Stone.

These photographs will be classified by the committee, two of the most artistic designs of each class will be selected and used as illustrations in the printed volume of the Annual Proceedings.

We feel that there is a growing interest among architects and the public in the artistic development of concrete construction. So far the development has been principally along the lines of decorative concrete, concrete bridges, warehouses and factory buildings, due to the fact that the material is more economical and better adapted for this class of work than any other structural material.

Concrete from the viewpoint of economy and service is also better adapted for other structures, such as residences, walls and fences, but has not been so well exploited, the architects not being in possession of sufficient information and precedent to overcome a certain prejudice against this most excellent material.

This prejudice has been due to some extent to the exploitation of concrete blocks, which blocks being imperfectly and improperly made and of abominable design, mostly a bad imitation of rock face, has caused the architects to look askance at concrete construction for residential purposes.

That concrete is an excellent material for structural work is unquestioned, but that it can be made beautiful to the eye is doubted by most architects. Architecture to be sane and rational in accord with good art, must be designed to meet the requirements of the climate, the habits of the occupants and within the limits of the economical use of the available materials.

Also brushing the surface with dilute muriatic acid, which eats off the cement from the surface of the various particles. The acid treatment is usually used on a finer grain surface than exposed selected aggregates, the appearance is entirely different, no similarity. The exposed selected aggregates can be viewed from a distance of 500 feet. The appearance of the surface from that distance is as pleasing as in the nearby view. Whereas, the finer grain surface appears at a distance very much the same as if the surface had not been treated at all. This same effect applies to what is known as the bush-hammered surface.

The exposed selected aggregates afford a wide field. The various colored stones, pieces of broken brick, white marble chips and broken clay tile can be formed into a combination giving possibilities which are not to be obtained by any other method. Combining these effects with clay tile in design primitive Indian or Oriental colors, and the effect is very happy. But we cannot obtain these effects by artificial methods such as what might be called pebble dash, the pebbles being placed in the mortar by hand, they are unconsciously arranged with such a degree of regularity as to be obviously unnatural.

The exposed selected aggregates, bush-hammered concrete or acid treated concrete, is perfectly rational, along the lines of good art, honest and sincere, as it simply exposes the aggregates in the position which the mixing has placed them.

There is still another use for concrete which is entirely different from that above described, and yet in perfect accord with good art. I refer to the molding or casting of concrete stone. If by intelligence and good workmanship we can reproduce natural pink or gray granite, or even with our white Portland cement an excellent marble and performing the work so faithfully as to baffle the practiced eye, we are actually reproducing a natural stone. I have seen a large amount of this work in Boston, particularly at Harvard College, where there is a building of granite, a wing having been added of concrete stone in the form of granite so faithfully reproduced as to make it impossible for even the practiced eye to tell where the natural stone ends and the concrete stone begins. This at a distance of not over five feet.

I could also go further and state that the concrete blocks which have been such an abomination in the past can be successfully used and serve the purpose of correct art, provided the concrete blocks are employed as concrete blocks, not an imitation of anything else. The rock-face concrete blocks are unquestionably a bad imitation.

The concrete stone molded or cast has the advantage over natural stone, by the correct selection of the best of aggregates scientifically proportioned so that maximum density results, no lamination occurring as occurs in natural stone. Therefore, it is safe to state that such a stone can be produced more uniform and as dense as Nature's products and artistically as beautiful, there being no thought of imitation.

The architectural treatment of concrete is one matter, and the reproduction of a natural stone is another, so is the employment of concrete blocks still another. By one method we are manufacturing a natural stone of artificial methods, by another we are manufacturing a concrete hollow block to be used as a concrete hollow block, not a natural stone, and not an imitation. When the Greeks translated wood into stone the form was suggested but the material was obvious. So it should be with concrete, but if used to reproduce a natural stone *then*, and *then only*, should the reproduction be architecturally treated as natural stone.

This subject of the architectural treatment of concrete as a structural material may, therefore, be divided into two parts, and when used it should either stand honestly as concrete or should be used to reproduce Nature's products; but in reproducing, if bad workmanship is employed, merely ugly imitation results. This line is rather finely drawn, but we should not become so fanatic as to state that concrete can be used only as concrete.

Quoting from Ruskin: "To cover brick with plaster and this plaster with fresco is perfectly legitimate, the plaster is gesso grounds on panel or canvas; but to cover brick with cement and to divide this cement with joints that it may look like stone, is to tell a falsehood, and is just as contemptible a procedure as the other is noble."

#### ANNUAL ELECTION OF OFFICERS.

The election of officers was held on Wednesday morning, January 13, and resulted in the unanimous endorsement of the recommendations of the Committee on Nominations, as follows:

Richard L. Humphrey, president.  
Merrill Watson, first vice president.  
M. S. Daniels, second vice president.  
E. S. Larned, third vice president.  
Geo. C. Walters, fourth vice president.  
George C. Wright, secretary.  
H. C. Turner, treasurer.

Chairmen for the standing committees of the association were chosen as follows:

Art and Architecture—L. C. Wason.  
Cement Products and Machinery—L. V. Thayer.  
Insurance, Laws and Ordinances—W. H. Ham.  
Reinforced Concrete—A. E. Lindau.  
Streets, Sidewalks and Floors—O. W. Boynton.  
The selection of a chairman for the committee on specifications for cement products was given into the charge of the executive committee.

In accepting his election to the presidency for the fifth time Mr. Humphrey did so with some hesitation, although he was touched by the unanimous expression of continued confidence in his leadership. He spoke of the ambitions he has always held for this association, the steadfast purpose that has always been to extend and expand the influence of the organization, and referred lightly to some of the hardships that have been gone through in the official life of the association. He paid a tribute to the loyalty of his fellow officers and coadjutors in the work.

E. D. Boyer, chairman, reported thirty-eight contributing members to the good work of the association.

Invitations for the next convention were received from Atlantic City, N. J.; Columbus, Ohio; Toledo, Ohio, and Atlanta, Ga.

P. Austin Tomes, chairman of the committee on publicity, reported that the effectiveness of his committee depended in a large measure upon the co-operation of every man interested in the industry. He asked all the members to join in boosting the publicity campaign whenever the matter was brought up to them by the committee or otherwise.

The social feature arranged for Thursday evening might have been a failure had it not been for the resourcefulness of Vice-President Watson, who was in the chair, and the good cigars that George Walters kept circling around the room without stint.

The registered attendance of members about reached the 400 mark, while the exhibitors and visitors, including those who took in the exposition at the armory, numbered no less than 5,000.

#### CONSTRUCTION AND COST OF SMALL CONCRETE HOUSES.

C. R. KNAPP.

The use of concrete for small and medium priced dwellings, stables and garages presents a vast field for operation. In my opinion it is the largest in the cement world.

The construction of large concrete buildings in nearly every city has been an object lesson to the people. It has given them much food for thought and, as thought begins investigation, they are fast putting two and two together and arriving at the conclusion that what is good for the hard-headed man of large finances, who has had scientific and expert advice, must be good for them. Fortunately they are not confronted with a proposition involving the intricate engineering problems of large structures. There is, however, one point to be made clear, and that is the cost. This, to the masses, means much.

In talking with the people about concrete, invariably the first question always asked is: "How does concrete construction compare as to cost with other building material?" In answering this question let me take up an analysis of the cost of the different materials and see just where concrete construction really stands.

Stone, or stone backed with brick, is admittedly much higher than other materials. If the stone is quarried on the lot or near building site, the cost will be somewhat lessened, but will still be higher than brick.

Frame construction has not the same standards of cost as other materials. We cannot, therefore, give reliable data. For example, one contractor offers to build a house for \$2,000; another the same house for \$2,500, and a third contractor will ask \$3,000. What do you get? Simply what you pay for, no more, no less.

The first house is merely thrown together, good only for from three to five years, and is then apparently an old house, its value having depreciated fully 30 per cent to 50 per cent. It will always be in need of repairs. The second house, of better construction, is good for from ten to fifteen years, with repairs beginning after the third or fourth year. From then on repairs are an ever increasing fixed yearly expense.

The third contractor, for \$3,000, has constructed a good frame house, that will last from twenty-five to thirty-five years. To do this, however, the frame has cost more than concrete. The cost of the other two houses is less than concrete, but in from five to eight years the cost is much more and the difference increasing every year. In addition, there is a depreciation for wear and tear, whereas the concrete house, like good wine, improves with age.

Brick construction will cost for a 13-inch wall from 36c to 50c per square foot of wall, and a 9-inch wall will cost from 25c to 35c per square foot of wall. To these figures must be added, for the finished wall, cost of furring, lathing and two brown or scratch coats of plaster and the white coat.

Hollow clay tile construction, which has an advantage over brick by reason of its air space, averages about the cost of brick or a trifle under. In comparing it with concrete, the writer knows of a case in point, where an owner thought the concrete bids were too high and turned to the tile, expecting that the cost with this material would be much lower, as he had been led to believe. The unexpected happened. The hollow tile bids were higher.

Concrete blocks, at less cost, have all the good points of the hollow tile construction and a few more besides. There is nothing better than a concrete block wall, where the blocks are properly made, cured and placed. The difficulty with 90 per cent of the block houses about which there has been complaint is generally found upon investigation to be defective in the laying up. The public does not know this and at once condemns all concrete blocks as bad, whenever a poor block will give fairly good results, if the mason will only do his work right.

The cost of block construction is from 18c to 35c per square foot of wall having a thickness of eight to twelve inches inclusive. For the finished wall, add the cost of the white finish coat, which is put directly on the concrete, thus saving the cost of furring, lathing and the two brown or scratch coats of plaster.

Blocks are condemned by many because the outward appearance does not appeal to them. Architects say that the rock face is a bad imitation and inartistic. Admitted, but 90 per cent of the people who use them choose this surface. It is also claimed that, as the blocks are so regular in size, it gives the building a look of sameness. This can also be said of brick.

All of these arguments can be met by making a block of coarse materials with a very rough surface and by laying them up without pointing the joints, then rough casting the wall to any surface desired. A rough stucco or pebble dash wall is always acceptable to the architect. By this method you have not only completely changed the appearance, but you have done this without losing one of its good features and at a less cost. I believe this method to be the cheapest in the block business.

A plain or reinforced concrete wall is much stronger in every feature than a brick wall. It is, therefore, not

necessary to make the concrete wall as thick, in order to get the proper factor of safety. The Philadelphia Building Laws take cognizance of this fact by requiring in concrete only two-thirds of the thickness called for in brick.

For house construction, I would advise two four-inch walls, with a four-inch air space. The two walls should be tied with metal ties in concrete webs. This gives a wall of full strength, saves materials, gives an absolutely damp-proof house, and all the benefits derived from the four-inch air space. It also saves the furring, lathing and two brown coats of plaster, the finishing coat being plastered on the concrete. This wall will cost from 15c to 25c per square foot of wall, plus the finishing coat.

Another method is to use a six-inch wall, which is strong enough for any two story house, with furring, lathing or My-rib metal sheathing on the inside, which gives enough air space to keep any dampness from coming through. Plaster in the regular way with two brown coats and one finish coat. This will cost from 11c to 18c per square foot for the concrete, plus the furring, lathing and plaster. These prices are equal from six to ten dollars per cubic yard for concrete.

Concrete partitions, two inches thick, reliable in every way, nothing better can be put up for 16c to 20c per square foot. Floors by using concrete in connection with hollow tile, can be placed for about 25 to 40 per cent more than the wooden joist construction we are now using.

A concrete roof costs but a few dollars in excess of what we are paying for the best wooden shingles. After we have these things, we have a structure which does not require any painting, repairs or outlay of any kind. We have a fireproof house which does not depreciate, but rather increases in value. It saves the large insurance expense and fuel. It is a delight to the owner, because it is cool in summer and warm in winter.

To reduce the cost of construction of the small reinforced concrete building, a method must be applied that is at once simple, quick, practical and economical. The system which is economical for the large structure is too high in cost for the small structure. During the past summer the writer constructed a stable for Robert E. Griffith at Haverford, Pa. The outer walls and partition walls were six inches thick. They were all carried up at the same time as a unit. To do this we used two rounds of 12-inch boards inside and out, fastened with the Dietrich clamps. The result obtained was quick construction, which means a saving of labor, economical use of lumber and a minimum cost, which was in this case \$1,580, as compared with a bid for brick of over \$2,500 and for frame of \$2,000. The number used for forms and scaffolding was all utilized in the carpenter work, thus there was no waste.

Where the form is a part of the builder's permanent equipment, to be taken from job to job, I would suggest units eight feet long by three feet wide. When two rounds of 12-inch board units are used it often happens that the placing of concrete is delayed owing to the men changing forms and not being able to keep ahead of the mixing. By using two rounds of the 8x3 foot units, which are easy to handle and cost no more to place than the one board units, two men changing forms can keep ahead of six men mixing and placing. This gives the concrete a longer time to set before the forms are taken off.

If care is taken in placing the concrete there are no surface voids and it will leave a smooth wall for any of the many different finishing methods we may wish to apply.

The method giving the best result for the least work is by thoroughly wetting the walls and then applying with a brush a thin 1-2 mortar, rubbed in well with a carbondum stone. This produces a lather on the surface, removes all board marks and fills the pores. Before dry go over the wall with a brush dipped in water. The result is a hard, smooth, even surface and uniform in color. A green wall can be done in the same way.

In conclusion I would like to refer to the problem of satisfactory treatment of concrete houses from the architect's point of view. A leading architectural magazine recently sent out a circular in which the following statement appeared:

"There is no reason in the world why even the suburban residence or farmhouse should be a hodgepodge of irrelevant architectural details, enclosing a sorry assortment of poor and, therefore, uneconomical construction and equipment. The sad, costly, architectural aberrations which line even the main thoroughfares of our leading cities are the gratuitous insults of ignorance. Nobody means offense, nobody willfully chooses the poorer result, but it is not to be avoided when the worse appears, the better reason. We need a united effort for reformation. We need to establish a fair average of critical judgment. We do not need an artistic police, but we need an artistic school for art."

We, as cement users, can derive great satisfaction in knowing that the condition of affairs as described by this high authority in the domain of architecture cannot be charged to builders of concrete houses, as the latter are so much in the minority that the criticism quoted could not apply to them. It is my conviction that the people will learn to admire and come to like the plain and simple concrete house, just as they have learned to appreciate many other plain and useful things that former generations regarded as incomplete unless profusely carved and ornamented.

To illustrate my meaning, the modern steel railway coach with its cement floor might serve as an example as opposed to the highly varnished and over ornate style of car that preceded it. We find the trend of critical taste already pronounced in this direction and it will not be long before public taste will follow, with concrete affording unexampled opportunity to exemplify it in attractive and indestructible dwellings of moderate cost.

#### VALUE AND COST OF STEAM CURING OF CONCRETE BLOCKS.

F. R. PHIPPS, ST. JOSEPH, MO.

A great advance in the use and reliability of concrete building blocks has been made possible through the steam curing of such blocks. The object of this paper is to give an insight into the methods and systems used by the Central Stone Company. It is to be understood, however, that nothing said is to be inferred as advancing any claims to the superiority of our product.

#### Advantages of Steam Cured Blocks.

A block cured with steam vapor is harder and stronger at the expiration of twenty-four to thirty hours than a block cured by the old way of sprinkling or spraying at the end of seven to ten days. The method of manufacture is as follows: The blocks are made in ordinary

machines and transferred into the ovens where there is no sun or current of air to cause them to dry before they start to set. As soon as an oven is filled it is closed and within one to two hours the steam is turned on and it immediately condenses upon the block the same as dew on grass, and in less time than it is possible to spray a block, it is filled with moisture. In this way a block can be given so much moisture that it will become mushy and mash before the cement sets. This fully refutes the argument that steam curing dries the blocks before they have the proper amount of water.

If a block produced in twenty-four hours is equally as good or better than a block made in seven days under the sprinkling system, is this point not worth considering in installing a steam curing plant?

Further, blocks can be delivered upon a contract within twenty-eight hours after starting the plant, doing away with the one great objection the buyer has against concrete blocks—that of being compelled to wait several days for them after placing the order. A denser block can be produced as the steam does not wash any of the cement from the block, as is the case with the sprinkling system. Also the color of the blocks is more uniform, regardless of the cement used. I have made blocks using dark, as well as light cement, and find that they are almost the same color; the steam gives them a lighter color than it has been possible to obtain before. With steam curing blocks can be made all winter, which gives the same opportunity to build with blocks as with brick. Again, in case of rush orders, delivery can be made in thirty-six hours, or just as quick as stone can be obtained. It has been my experience that under the system of Steam Curling, a better block is produced, both in color and strength, and a block that is much more salable than the old water-cured block.

#### Cost of Manufacture of Cured Blocks.

We are using Kaw River sand, which is sharp and clean and costs delivered, including shrinkage and waste, \$1.10 per yard. The price of cement at the present time is \$1.25 per barrel. Our proportions range from one to three and one to five and our cost for one to five proportions is 3c per foot and for one to three is 5c per foot. With one man to take care of the boiler, ovens, engine and the mixing of the materials, at \$2.00 per day and two men to run the machines at \$1.75 per day, we turn out 560 feet of blocks. Allowing 50c for coal per day and \$1.00 for office help, our blocks cost us for labor very close to 1 1/4c per foot; with the 3c added for material in the one to five block, the cost will be 4 1/4c per foot and of the one to three block, 6 1/4c per foot. These figures do not allow for insurance, wear and tear on machinery or the manager's salary. If three men were used on the machines, instead of two, the cost would be no greater for mixing or for curing than it does for two men. As near as we have been able to ascertain, 1,000 to 2,000 pounds of coal will cure three ovens of blocks, each oven containing from 140 to 160 blocks. Our men on machines are able to turn out 140 blocks, 32 inches long by 9 inches high, giving 2 square feet to the block. The blocks we make for building purposes are 4-inch L-shaped blocks, ranging from 4 to 33 inches. To build a wall from eight to twelve inches in thickness, we use two 4-inch blocks, so cost of same must be figured on a one to three proportion for outside wall at a cost of 6 1/4c per foot and one to five proportion for inside wall at a cost of 4 1/4c per foot, making total cost of a 12-inch wall, 10 1/4c per foot. The hollow blocks we make are somewhat cheaper as it is only 9 inches high and 8 inches wide. We make all sizes, but this is the most used. It costs about one-third less for material and about the same for labor.

#### The Plant.

The cost of a plant will depend on the size and equipment desired. We have a twenty-five horsepower boiler, which cost with all piping and fitting, \$225 and makes steam for six to nine ovens. The ovens cost about \$50 each. Almost any old boiler will answer, and the oven can be made of sheet iron (although I would not recommend this class of oven).

He then explained more fully the system they were using with the aid of pictures.

#### UNBURNABLE HOMES. THEIR ARTISTIC AND ARCHITECTURAL POSSIBILITIES

By B. A. Howes.

During the past six years my time has been given over exclusively to the construction of concrete unburnable homes. The experience I have met with in my efforts to persuade owners that a concrete house was the best possible investment has convinced me that there are two main stumbling blocks to be overcome before concrete will come to its own as the domestic building material par-excellence.

The first of these lies in the scarcity of engineers or organizations trained for the economic erection of such buildings. As everyone knows, there are many firms of concrete engineers who have attained a large measure of success and whose work as to quality and efficiency leave nothing to be desired. The substantial records of their success in the shape of concrete industrial structures, factories, warehouses, bridges, dams, etc., cover the country.

No such wealth of material, however, awaits the investigator of what has been done in this line of concrete domestic work.

The reason for this is not far to seek. In the construction of industrial work, the problem facing the engineering contractor is one of rapid and economical handling of large amounts of material.

The house builder, on the other hand, faces a problem made up of an infinite number of petty details. Instead of planning how much plant he can use to reduce the cost of each yard of concrete entering into the structure, the house builder must plan to avoid every possible dollar's investment in a plant that, because of the insignificant bulk of concrete in the work, will have no possible chance of paying for itself.

For this reason these industrial concrete engineers have steadfastly refused to build residences, no matter by whom the opportunity was offered them.

On the other hand are found many excellent firms of builders possessed of an organization wholly capable of the efficient and economical handling of the multitude of details that go to make up the house building contract, but these men are absolutely devoid of the engineering experience and ability necessary to the successful concrete constructor, and, as conservative men, they, too, have refused to undertake concrete house construction.

It is only because these facts point to the profitable necessity for a concrete house organization that I am forced to turn for my illustrations to the work of my own organization.

It is indeed fortunate that this condition can last but little longer. The technical schools are turning out young engineers well trained in the principles of concrete construction and several large firms of reinforcement that eliminate much of the necessity for technical engineering ability on the part of the contractor.

With these aids and the stimulus of a constantly increasing public demand, one after another of the progressive firms of house building contractors will enter this field.

The signs point to a time which may dawn tomorrow when some far-sighted business man and benefactor of the concrete industry and humanity will, backed by an efficient manufacturing organization, place on the market a standardized reinforcing system, and a reinforcement hand book that will do for concrete what the Carnegie company and the Carnegie hand book have done for standardized steel construction.

Reinforced concrete has been enthusiastically called a plastic building material. This is only partly true. Its initial plasticity and the widely differing properties of its two component elements, steel and concrete, the one of great tensile and the other of great compressive strength, have given to the designer a far wider scope than he has ever enjoyed in any other building material. This scope has, however, very sharply defined limitations, and he who solves successfully the problem of concrete design, be his method that of the drafting board, or better, of the modeling table, must have an absolute knowledge of the engineering limitations and necessities of the material with which he is dealing, if his work is to be possessed of any real engineering character and architectural beauty.

No branch of art owes more to the past than architecture. It is only natural that the architects of today, who are, as a class, worshippers of the marvelous beauties that their craft has left to mark the glories of bygone days, should be slow in adopting the new building material, one that in its nature requires the breaking away from ancient precedent and design and the originating of a new architectural type.

The bolder spirits in the profession, who see the opportunity of great artistic and financial regard in the solution of the problem of artistic concrete construction, will, of course, have to stand the derisive criticism with which conservatism has always attempted to check development.

We are happily emerging from the time when reinforced concrete must needs defend itself against its critics and can unite with the world at large in smiling at such unintelligent, not to say unintelligible, criticism as indulged in by a recent anonymous architectural writer in criticizing the bridge recently built in the New York parkway system. In line with the usual criticism of concrete as lacking monumental massiveness the bridge, he says, in comparison with masonry or concrete unreinforced, is "unduly thinned and unduly flattened by means of the concealed reinforcement," and as for some attendant retaining walls, he says they are "mere inexpensive, expansive expanses of smooth smears"!

Of course, there is less mass in a reinforced concrete bridge than in a masonry or plain concrete bridge. And he who criticizes the graceful sweeping lines of a concrete bridge does so only because he lacks an intelligent conception of the beauty of architectural expression. Unlike structural steel, the steel of reinforced concrete is not concealed, and is not meant to be. The steel and concrete together make a homogeneous building material, either element of which is indispensable; and to the seeing eye well designed works in reinforced concrete always show the steel and to a large extent even the amount of steel used in the reinforcement. The architectural design which fully satisfies the engineering demands of the material and expresses them to the eye will be felt in the end to possess true beauty.

Just what style will be evolved as a proper and fitting expression for reinforced concrete only time will tell. One thing we may be certain of: no imitation of stone masonry will be tolerated by the architectural profession, to say nothing of the public at large. In my opinion, the future of concrete architecture lies where that of all other types has lain. In the logical development of the engineering possibilities of a material modified only by conditions of labor. The magnificent supplies of marble, for instance, at the disposal of the Greeks could be utilized as they were, only by the presence of many highly skilled artisans in a community where the general level of intelligence was remarkably high. The Romans, with less stone and marble, but quantities of high-grade natural cement, and a vast amount of unskilled labor in the persons of slaves, were able to construct such a marvel of concrete as the dome of the Pantheon, with its 142-foot span; while their arch construction was a direct expression of their need to use smaller stones than had the Greeks and Egyptians with their great beams and lintels. And it is, of course, well known to you that the direct occasion of the development of the Romanesque recessed arch and the Gothic pointed arch was the need of still further economy in the use of still smaller stones, and in roofing larger free spaces. It was, so to speak, in silence and darkness, at the call of imperious necessity, that those Kermals of later grandiose architecture germinated. And it is to me at least of direct and striking interest that in the same way, in unconscious response to imperious needs, that the first steps have been taken toward that concrete architecture which the architects of today will carry to a triumphant expression. It is in factory and warehouse construction, gentlemen, the work of these blind utilitarians, the building engineers, that you will find them.

Take the typical case of the transition from beam and column to the flat arch.

The typical factory construction in concrete has, up to the present time, been almost entirely of the trellised or vertical column and horizontal girder construction. The reason for this lies not in the fact that it is the truly economic engineering design in the securing of the maximum amount of efficiency of a given quantity of material, but because the problem of constructing forms in which curves are embodied in an economical manner has not so far been successfully met. But in many of the most advanced examples of factory construction will be found the bracket, and, later, the bracket going over into the flattened arch, simply because it is the strongest shape for a given amount of concrete and steel, meeting the shearing stress and lessening the weight. The point of weakness in a concrete girder is not as is generally supposed at its center. That is its greatest point of strength. The weakness is at the so-called shearing point where the beam joins the column. It is to increase the strength of the beam at this point that the bracket is utilized. Expressed in another way, the flat concrete girder contains a considerable quantity of waste material at its center that serves no other purpose than extra fireproofing of the steel reinforcing.

The flattened arch will always be the economic type of concrete construction, for the reason that the increased cost of concrete offsets the saving of reinforcement when a certain point of spring is reached on one hand and the increase of reinforcement offsets the saving in concrete when the certain point of flatness is reached on the other hand.

As there are two factors to be considered in the economic design of a concrete structure, their comparative cost at the point of construction must be considered before the economic design can be selected.

In the Pittsburgh district, for example, where steel is cheap and labor and concrete aggregates are comparatively expensive, the cost being approximately \$35 a ton for the steel and \$12 a yard for the concrete. With these factors the spring of the truly economic arch, eliminating for the time being the question of the forms, would be very slight.

Taking on the other hand a district in the south, for example, where unskilled labor and concrete aggregates might be obtained at a very low cost, where steel would be excessively high, the factors might be worked out on a basis for \$50 a ton for steel and \$8 a yard for concrete. In this case the spring of the arch would be considerably greater. Today any building of reinforced concrete of the least monumental importance will be a composition in which the flat arch will be the dominant motive, and the truth of this is attested by the recent continental buildings in reinforced concrete.

Now this development in direct response to practical demands has many parallels, the beginnings of which are to be found in the same way. But as my subject is not concrete architecture in general, but concrete houses, let me pass on to the variations from the usual type which economy and engineering demand for the construction of dwellings.

First of all, it may be said, that good design in concrete demands broad flat surfaces, in which the artistic effects will be reached by variations in color, and texture, contrasts in texture, or light and shadow from recessed panels, etc. Examples of several typical concrete houses were presented, showing in every case true color reproductions of the original by the Lumiere process.

Another important development which took its first rise in warehouse construction and which, so far as I know, has been used for a house, only in this one example, is the tapering beam. This, of course, is a point of economy, as it omits concrete at the point where it is not needed. I myself was astounded at the results of my first experiments in the effect of lightness and spaciousness in a room so treated. Contrast the heavy effects of beams, attractive in their way.

Closely allied with the motive of the flat roof is the new opportunity in the treatment of balconies. The cantilever principle is easily operative here and many suggestions will come to architects from the possibility of a balcony like this.

In the direction of variations made possible by the fire-proof properties of concrete there is a wide range. The open roof loggia, or veranda, with fireplace, is one delightful and very practical possibility.

The garage under the kitchen is another apparently daring but perfectly safe departure.

The treatment of the fireplace itself is still a moot point. Such simple fireplaces as this, where contrasts in texture express the nature of concrete, are thoroughly fitting.

Or, this fireplace, where the original sculpture is in cement by a well-known sculptor, gives the other extreme of delicacy. Cut stone ornaments can, of course, be duplicated in cement by ingenious methods, but it would seem that a true aesthetic feeling would seek rather to follow the genius of the material in avoiding complicated cut-under designs, and choosing bold simple forms or bas-relief. Such modeling as appears in the fireplace just shown and the design adopted both by a well-known sculptor, Mr. Tarnis, or one of Alma Tadema's pictures, for instance, are examples of the healthy use of this plastic but massive material.

And this brings me to the question of surface ornament in colored mosaic or tile. I have in the past been an opponent of the use of colored mosaic for outside ornament; rather advocating the use of light and shade through offsetting columns and showing arches, recessed panels, etc., but study has convinced me of the great sanitary value, especially for city buildings, or the use of flat ornaments flush with the wall surface, and the recent development in mosaic brickwork, in city building especially, has opened up a line of possibilities not even suggested by other work.

In country house work the window grouping and the texture are the important problems. The grouping of windows, relieving and accenting them by leaded lights, or by treating the surface about them to modify texture, the construction of sills and jambs in brick, for example, form a striking and pleasing change from the monotony of an all concrete surface.

Of more prosaic nature are the details of cement floors and bases and metal sash. In public buildings today some combinations of cement floors are universal from sanitary and economical reasons. For houses it is not a matter of adopting them blindly but with discrimination. Experience has shown that they are not more chilling than wooden floors, and with white cement and sand as a basis they can be finished in pleasing shades. In order of cost they are plain gray cement, white, and tinted cement, terrazzo (marble chips in cement polished to bring out the marble), and various forms of floor tile, marble and ceramic.

As for metal sash, in most cases casement sash are desirable for all reasons, and their appearance and reliability justify the slightly increased cost of the excellent metal sash now on the market.

Finally in regard to texture, there are many methods of reaching interesting and pleasing effects, one at least of which has been successfully marked out by our honored chairman, Mr. Moyer, in the construction of his home. A volume could be written on these methods, but as they are being carefully and successfully studied at present I will turn rather for my past work to the province in which I am engineer, which now feel most keenly the need of the interest and progressive achievement of the architectural profession.

It is in the realm of characteristic reinforced concrete design that the work is loudly called for—design of the house, and especially the small house, that shall not imitate woodwork, or brickwork, or stonework, half timber or stucco, but shall clearly express the qualities of this noble building material, its monolithic quality, its capacity for enormous span, its economic curves. Here the first suggestions are ready to hand—it is for the young architectural genius to make the most of them.

(Continued on page 55.)

## FROM OUR OWN CORRESPONDENTS

PHILADELPHIA, PA.

PHILADELPHIA, PA., Jan. 18.—Cement conditions in this section are increasingly healthy. Though there has been a limited amount of concrete construction work given out during the recent few weeks, there is a considerable number of contracts in contemplation, and it is believed with reason that 1909 will prove a most prolific year in this line. Cement prices are still unsatisfactory, but it is now more than probable that the cement manufacturers, realizing at last the folly of continually antagonizing each other, will in the near future consult together and coöperate for the general good. The agitation in the columns of *ROCK PRODUCTS* and the daily papers of this city regarding the unjust discrimination against Philadelphia in the freight charges on cement from the Lehigh valley district in favor of Jersey City, N. J., has had a beneficial effect, as the Pennsylvania railroad is now preparing to reduce the freight rates from \$1.35 to 80 cents a ton, placing this point of shipment upon an equally just footing with the city mentioned. The Reading and other roads have not shown the same fairness.

The general building work for December shows a decided advance on that of the same month of 1907. The total for the latter was \$901,045 against a total for last month of \$2,052,855, and conditions all point to a banner year for 1909. Among the work being planned for early execution, weather permitting, are 126 two and three-story houses in the neighborhood of Butler to Pike and from Seventh to Eighth streets, to cost \$365,000.

Contracts for the cement handling plant required for the construction at Gatun for the locks of the Panama canal have been placed with Dodge & Day, 608 Chestnut street, this city. The plant will be called upon to supply about 3,000,000 cubic yards of material. The contract price is \$300,000.

John L. Fry will soon begin work on fifty-seven two-story dwellings, each 16 by 57 feet, on both sides of Sixty-third street north of Haverford avenue. The total cost, including the ground, will be \$225,000.

John Megraw has permit for 288 dwellings for Fifty-fifth street and Greenway avenue, to cost \$750,000.

Joseph C. Boggs, for 132 dwellings on Walton avenue and Pemberton street, between Fifty-eighth and Fifty-ninth streets, and

J. Franklin Moss for thirty-three dwellings to be erected on Fifty-ninth between Master and Medea streets.

Plans have been prepared for a six-story concrete building at 144-46 North Broad street, on the site owned by Henry R. Schoch. The building will have a front of fifty feet on Broad street and a depth of 180 feet; will cost \$100,000.

A contract was awarded to the Roydhouse-Airey Company by Ballinger & Perrot, architects and engineers, for the erection of a manufacturing building at Twenty-third and Arch streets, for the George P. Filling & Son Company. The building will be 62 by 65 feet, five stories in height. It will have brick walls and slow-burning wood construction for floors and roof, except the first story, which will have a reinforced concrete fireproof ceiling. Windowsills and lintels will be of reinforced concrete and the wall coping of salt glazed terra cotta.

A new million-dollar hotel to be built at the Boardwalk and New York avenue, Atlantic City, N. J., which will replace the American hotel and garden, is on the boards; also a seven-story apartment house for Chelsea, Atlantic City, to cost a million dollars.

The Master Builders' Exchange, to the delectation of its members and guests, gave a smoker and an interesting vaudeville show in its building on the last afternoon of the old year. The rooms and exhibition hall were made gay with a tasteful commingling of holiday greenery and bunting, and on the north side of the large meeting room on the second floor was erected what is affirmed to be by those competent to pronounce upon it, the most complete stage and outfit ever owned by a private organization. Curtains, scenes, footlights, boxes for the ex-presidents and distinguished guests and, in fact, all the requisite paraphernalia for an amateur or professional performance, and the whole affair can be set up and every part satisfactorily adjusted inside of three or four hours. The rooms were crowded, and

after the serving of an elaborate luncheon the genial Charles Elmer Smith, secretary and superintendent of the Master Builders' Exchange and who was stage manager for the occasion, proceeded to carry out the program arranged for the afternoon entertainment.

The vaudeville show was composed, with one or two exceptions, of strictly home talent, and from the hearty applause and all-round robust and jolly appreciation of the same the members of the exchange are evidently amply equipped for a fair distinction in this line.

The program was as follows:

1. A playlette, called "The Tramp's Rendezvous," by Clark, Alexander and Lewis, for which special scenery had been provided. To say it was a sidesplitting and uproarious success is but meager praise.
2. Song by the audience.
3. Old Black Joe. A song and act by the popular slate and tile dealer, Richard T. Cropper, which was much appreciated and heartily applauded.
4. Song by the audience.
5. Victor Victoria. Imitations by Miss Law, who is an adept in this art and who made a number of remarkable rapid changes, to the wonder and delight of the spectators.
6. Song by the audience.
7. Act, called the Calsemine Bros., by Smith and Taylor, who designed and painted an impromptu and miraculous picture, 4 by 5 feet, for the audience in seven minutes.
8. Song by the audience.
9. Sailor's hornpipe, by James J. Ryan, ex-president of the Exchange; a wonderful terpsichorean feat (no pun) which was loudly cheered.
10. Song by the audience.
11. Musical act, by the Blackberry Bros. (colored), which proved one of the hits of the day.
12. Song by the audience.
13. Biograph.

At the windup of the biograph a rousing vote of thanks was given by the audience entire to Charles Elmer Smith, the secretary and superintendent of the exchange, for the thorough and able manner in which he had conducted the entertainment; not a hitch or delay anywhere, which is almost unprecedented in an amateur performance. All present voted it the most original and enjoyable affair ever planned and executed by the organization.

The Engineers' Club, of Philadelphia, has been actively engaged for some time preparing for the election of new officers. The final nominations are as follows: President, W. P. Dallett; vice-president, Philip L. Spalding; secretaries, G. Edward Smith and W. Purves Taylor; treasurer, H. E. Ehlers; directors, George T. Gwilliam, Charles F. Mebus, Edward S. Hutchinson and A. C. Wood.

The club held meeting on January 2 at 8:25 p.m. with 130 members and visitors present. After the minutes of the meeting of December, 1908, were read and approved as printed in abstract, the report of the tellers was read, showing that Keith F. Adamson, Arthur F. Barnes, Frederic S. Crispin, Amos C. Fisler, John S. Green, Donald Graham, Lionel A. Levy, Lloyd A. Cagendorph and Robert E. B. Sharp were elected to junior membership, and Werner Kaufmann to associate membership.

It was resolved that the board of directors be authorized to design and adopt a suitable badge for the membership of the Engineers' Club.

The paper of the evening, "Discussion of the Strength of Beams," was presented by H. D. Hess, active member.

The office of the Association of American Portland Cement Manufacturers has been removed to larger headquarters at 1329 and 1330 Land Title Building, a part of which will be occupied by the secretary of the association, Percy H. Wilson and Lewis R. Ferguson, who trade as consulting engineers. The recent bulletin (No. 20) issued by the Association of American Portland Cement Manufacturers, which is given free to anyone interested in the cement and concrete business, is one of the most interesting booklets of its kind issued so far and of considerable value to the handlers of cement and concrete. It gives a technical description of what concrete is; the material to use; how to mix concrete; the tools and plant to be used in mixing, with diverse illustrations showing the practical side of the industry.

The Vulcanite Portland Cement Company, 1230 Land Title Building, states that since Christmas things have been quiet, which is always to be expected at this time of year. It looks for improved conditions probably by March.

J. T. Wakeman, Philadelphia representative of the Edison Portland Cement Company, 613A Arcade Building, reports the company fairly busy considering time of year; is hopeful that after the holiday dullness business will receive new impetus.

Philip S. Vollmer, Philadelphia representative of the Atlas Portland Cement Company, 112 North Broad Street, is not disposed to quarrel with conditions, as business seems to be improving gradually and from all information he can gather everything looks encouraging for future.

There was an explosion of dynamite at the Keystone works of Charles Warner Company's lime quar-

ries near Plymouth Meeting, Pa., on January 4, the shock of which was felt for half a mile. Report straight from the Warner office is that beyond the tearing up of some tracks, no serious damage was done and the working of the plant has in no way been interfered with.

E. E. Nickson, manager of the National Fireproofing Company, 317 Land Title Building, reports things a little quiet, but anticipates a livening up as the winter advances. He states that his company has the fireproofing for three school houses, two of them, one the James Madison School, at Newmarket and Green Street, the other Twelfth and Wharton Streets, to cost \$125,000 each, the remaining one, Fifteenth and Media Streets, \$170,000.

The Beaver Valley Coal, Sand & Supply Company, Pittsburg, Pa., was chartered under Pennsylvania state laws on December 26; capital not given.

The Stewart Construction Company was incorporated under New Jersey state laws on January 14; capital, \$100,000.

## INDIANAPOLIS, IND.

INDIANAPOLIS, IND., Jan. 18.—Prospects for the coming year are much brighter than they were for the 1908 trade a year ago. Contractors report that they have some very substantial contracts ahead and the number of public improvements will probably exceed those of 1908 in the city and state. Portland cement prices are still low, ranging from \$1.30 to \$1.65 a barrel, according to quantity purchased. While the Indiana mills are all enjoying a big business, deliveries are comparatively prompt.

The Board of Public Works has rejected all bids for the proposed contagious disease hospital. The plans are to be revised so that the buildings can be brought within an appropriation of \$60,000. There were three bids submitted recently, the lowest of which was in excess of \$76,000. The buildings are to be of concrete, faced with brick and trimmed with Bedford stone.

William F. Stillwell, of Lafayette, has just received two building contracts, one for building the court house in Michigan City, the other for a nine-story office building in Fort Wayne to cost \$135,000. The Fort Wayne building will be of concrete and steel and work on it has already commenced.

The eighth anniversary of the opening of the plant of the Sandusky Portland Cement Company at Syracuse was celebrated in an interesting manner on January 7. On that date a compromise was effected whereby the company will be permitted to dredge for marl in three places in Lake Wawasee.

With only one dissenting vote the ordinance regulating the manufacturing of cement blocks and massive concrete construction was passed by the city council the latter part of last month. The ordinance, which was published in *ROCK PRODUCTS* December 22, had been agitated for several months by block manufacturers who were anxious that a standard could be established so that they would not have to compete with inferior blocks that were sold at extremely low prices.

The Indianapolis Concrete Company, 604 Board of Trade Building, has been awarded a contract by Huber Mullenkph for the construction of a two-story concrete business block at Lawrence, just east of the city. It will be 50'x65', the lower rooms being used by merchants and the upper floor as an assembly hall.

Stanley & Davis, of Madison, have contracts for the construction of two concrete walls 100' and 120' long respectively, and also a contract for one 110' concrete girder. The latter will cost \$3,300, all the work located near Madison.

Bids are being received until February 1 by the Board of Lake County Commissioners, Crown Point, for the construction of a concrete arch bridge over the Calumet River. Charles A. Johnson, county auditor, has the plans and specifications and will receive the bids for the board.

Building operations in the city last year amounted to \$5,895,928, a slight decrease as compared with the previous year. There were thirty-nine permits issued for concrete buildings during the year, amounting to \$104,730. There is no way of comparing these figures with 1907, as until last year concrete building permits were not kept separately.

### Construction News.

Vallejo, Cal.—Plans are being prepared by the Navy Department for a large coal shed to be erected at the California City coaling station, to be of concrete and steel construction and of an estimated cost of \$225,000. Bids were recently opened in Washington for the construction of a second coal hoisting tower at this station; the bid of the Healey-Tibbets Construction Company of \$27,773 being the lowest.

## ROCK PRODUCTS

## ST. LOUIS, MO.

ST. LOUIS, Mo., Jan. 16.—Inclement weather has interfered, temporarily, with building operations, as was to be expected at this season of the year and, naturally, the sale of lime, cement and plaster is mostly confined to future delivery, and this is true of all other building materials. The outlook, however, both for St. Louis and for the territory in this section at large, is very bright. General business is improving, money is easy and the cost of materials being less than usual for the most part, presents good inducements for building operations.

Ordinances authorizing an expenditure of \$800,000 for water-works improvements are being drafted, including the expenditure of \$50,000 for a sub-pumping station near the Insane Asylum; also for completing the pipe extension at a cost of \$240,000. A third ordinance will authorize the construction of a new chemists' laboratory at Chain of Rocks, for making tests of the city water at the station there. It will cost \$10,000. About \$500,000 will be spent as soon as ordinances can be passed authorizing the erection of a new pumping station at Bissell's Point to be used as an auxiliary station for the southwest part of the city, which is being rapidly built up.

Nominations of engineers for the new municipal bridge are now being made by President O'Reilly, of the Board of Public Improvements. Preliminary borings for the piers are going on under the supervision of the department. The St. Louis location for the terminus of the bridge is at Chouteau Avenue. Carl Gaylor, one of the parties named for the position of engineer, estimates the cost of the bridge to be \$4,520,000, not including ground for approaches. The piers for the river span will cost \$1,060,000, and the bridge proper \$1,550,000. The west approach, including the clear span across the levee and elevated railroad to Seventh and Gratiot Streets, will cost \$1,035,000, while the east approach, including a span of 400 feet, will cost \$875,000. Mr. Gaylor was assistant engineer during the construction of the Eads bridge.

In view of the fact that contractors are usually, in case of important jobs, required to furnish a bond, the recent advance in the rates is complained of. One result of this has been the organization of a company at St. Louis to be known as the St. Louis Bonding Company of Missouri, with a capital stock of \$500,000, which, it is said, will, later on, be increased to \$1,000,000. The permanent officers will be elected at a meeting to be held January 25. Among the men who appear in the company are—August Heman and Louis Colnon, St. Louis contractors.

The first annual meeting and election of officers of the Building Industries Association was held on Monday, at which O. G. Selden was elected president; C. L. Gray, first vice-president; W. M. Sutherland, second vice-president; Fred B. Allen, third vice-president; S. M. Lederer, treasurer; F. W. Choisel, secretary. A feature of the meeting was the inauguration of the bulletin service, which is an innovation in St. Louis. On the bulletin board there is posted during 'change hour' advance information in the building business, both in the city and in St. Louis territory.

The speakers at the meeting were James Bright, one of the oldest contractors in the city; R. M. Gillespie, past president of the Master Bricklayers' Association, and Fred B. Allen. Secretary Choisel stated that over 45 per cent of the exhibit had been rented and exhibitors are beginning to install their exhibits. This feature of the work of the association is expected to furnish the architects a place where they may bring their clients to view the various materials as they will look when in the building.

Mr. Craney, sales manager, Union Sand and Material Company, having in addition to the output of the large plant at St. Louis to look after marketing the newly acquired factory at Kansas City, is a very busy man. He reports the demand for Portland cement as being dull as regards present delivery, but contracts for forward shipment are being made and the volume of inquiry is increasing as the building season approaches. This is also true of the lime and the sand and gravel departments.

Edward Quebbeman, St. Louis agent Universal Portland Cement Company, states that while not much cement is wanted for immediate delivery, the office is in receipt of a growing number of inquiries and liberal orders are being booked for future shipment in the various states which the company's salesmen cover and report to the St. Louis office. The price of cement is stronger and an advance probable in the near future.

Capt. F. S. Clark, sales manager Continental Portland Cement Company, states the company is at pres-

ent sold ahead. The outlook for business for the coming year is very encouraging. Lots of inquiries are coming in, some even as far west as Wyoming. The trade are well pleased, Captain Clark states, with the quality of the goods being manufactured by the company. Finding they require more power at the plant, the company is going to install another engine.

Frank P. Boyd, vice-president and general manager Meramec Portland Cement and Material Company, states the station of the company for handling Mississippi river channel sand will be located near the foot of Florida Street. The company is arranging to put up a plant having a capacity of forty to fifty carloads of sand per day, and has planned to complete it by March 1. The barges are completed and ready for use.

At the Sherman, Mo., location, where the company is operating a sand and gravel plant on the Meramec river opposite their property, they are putting in the foundations for the buildings for their Portland cement plant. Most of the machinery has been ordered and the crushing plant, dryers and tube mills will be installed by April 1. The balance of the machinery will be set as fast as received. The C. L. Gray Construction Company is the contractor for the buildings. Spur tracks connecting the grounds of the company with the Missouri Pacific railroad are completed.

R. G. Mincke, manager of the St. Louis Gravel and Sand Company, whose offices are in the Syndicate Trust Building, states the company is engaged in erecting a gravel and sand plant on its land at Valley Park, Mo., bordering on the Meramec river. The plant will have a capacity for handling upwards of 1,000 yards material per day. It is expected they will be ready for business by May 1. The company has two switch tracks connecting with both the San Francisco and Missouri Pacific tracks, consequently having the advantage of the terminals of the two railroads at St. Louis. The capital stock of the company is \$200,000.

Frank Steeg, general sales agent of the Aeme Cement Plaster Company, states though not much of their product is in demand for immediate shipment, there is on the other hand a fine inquiry from the trade for plaster for future delivery. As they are hearing from all over the country, the office is in a position to form a correct general opinion of the outlook, and Mr. Steeg says it is remarkably promising.

The capital stock of the C. L. Gray Construction Company has been increased from \$100,000 to \$500,000. The company was recently awarded the contract for a hotel and theater in Kansas City to cost \$850,000, and at about the same time was given the contract for a large office building in New York City.

The contract for one of the new buildings at the insane asylum has been awarded to the Hill-O'Meara Construction Company. The bid accepted by the city submitted by the company was \$70,960.03, which was \$3,000 less than the next lowest bid.

## KANSAS CITY, MO.

KANSAS CITY, Mo., Jan. 16.—A visit among the contractors and building material people finds them all in a very optimistic mood this year. They all look forward to a good year in building, and from the reports of work as well as that contemplated the cement mills in this district will have enough to keep them going. There will be a number of reinforced concrete buildings put up to add to the beauty and grace of the city.

There will be a twelve-story hotel of reinforced concrete put up at Fourth and Wyandotte Streets. The architects for the work are Barnett, Haynes & Barnett, of St. Louis, and the L. A. Gray Construction Company, of St. Louis, has the general contract for the work.

The Gloyd Lumber Company, one of the large line yard concerns of the Southwest, will erect a ten-story reinforced concrete building on Walnut Street between Ninth and Tenth.

There is contemplated an eight-story building of reinforced concrete at Ninth Street and Grand Avenue. The building is to be 96x115' feet. The top floor is to be occupied as a church.

The Faeth Hardware Company will erect a reinforced concrete warehouse at Eighth and Mulberry Streets. The architect for the work is Frank Ren.

The Cudahy Packing Company has purchased 15,000 barrels of Portland cement, which is to be used in concrete construction work at Wichita, Kan. The past experience from disastrous fires has taught the large packers that in reinforced concrete construction they have a material which is practically immune from fire losses.

## PITTSBURG AND VICINITY.

PITTSBURG, Pa., Jan. 17.—This month is the first of the present winter that the weather has seriously interfered with general building operations in this city and vicinity, and even during the past three weeks the conditions have not been such that a stop has been put to building construction.

The concrete and cement business has been in practically as good shape and condition during December and January as it was for the two or three months preceding. The weather was very mild, and at the same time exceedingly dry, making it ideal for this class of construction. As there was a large amount of road and paving work all over Western Pennsylvania under contract, contractors have been able to keep continuously busy, and have completed much work that they thought might be held over until next spring.

The outlook for the coming year is very bright, according to reports received by the writer from the leading architects, contractors and building supply people, and it looks as though there would be at least 20 per cent more cement used this year than was consumed last year.

Edeburn, Cooper & Co., the well known Pittsburgh engineers, located at 410 Grant street, will incorporate their business under the same name on the first of February. A Pennsylvania charter will be asked for, and the incorporators of the concern will be C. A. Cooper, R. C. Mulhattan, F. M. Cooper and C. A. Martin, all of this city. The concern, while not making a specialty of concrete engineering, does a large amount of this class of work throughout the entire Pittsburgh district.

J. S. Miller, of Grantsville, Md., and Moses M. Beachy and Lewis Hanft, both of Springs, Somerset County, Pa., have purchased the lime manufacturing business formerly conducted near Salisbury, Somerset County, Pa., by C. J. Yoder, and have changed the name of the business to the Keystone Lime Company. The business will be expanded and enlarged, and the output about doubled during the coming spring.

The West Penn Lime Products Company, operating in Fayette County, Pa., announces that the concern will have its large and modern plant at Mammoth, Pa., completed and in full operation by the middle of March. The plant has been in course of construction for about six months, and when completed will be one of the finest and most modernly equipped plants of the kind in Pennsylvania. The raw material is obtained but a short distance from the plant, and is to be found in abundance, the company having already secured control of a large acreage of limestone. J. B. House is one of the leading owners of the concern, which will have its general offices at Greensburg, Pa. The company has been incorporated under the laws of this State by W. R. Harris, J. B. House and George E. Barron. The latter incorporator is located at Greensburg.

The annual meeting of the Duster Contracting Company, of Tarentum, Pa., was held at the general offices in that city on January 12, and all of the old officers, namely, John Duster, M. Hammer, T. N. Gummert, Charles Biehl, W. H. Mildollar and Henry Duster, were reelected for the coming year. John Duster was then elected president; M. Hammer, vice-president, and T. N. Gummert, secretary and treasurer. A dividend of 10 per cent was declared out of the net earnings of the past year, during which the company was very successful and received a large amount of excellent contract work, a large portion of which was concrete construction, of which this concern makes a specialty.

So highly successful have been the series of exhaustive tests that have been conducted along the lines of the Baltimore & Ohio Railroad in the use of cement and concrete during the past two years that the company has decided to enter into the use of cement to a far greater extent from now on than has ever been the case in the past. Plans are now being prepared for a number of new concrete bridges that will be built on the various divisions of the road this year.

The Mahoning Limestone Company, Lowellville, Ohio, has resumed operations in full at the plant at that place, which has been idle for two weeks, during which time a number of needed repairs and improvements were made. The company reports having a large amount of business on hand, but was forced to close down in order that the repairs might be made.

The Nicola Building Company, Farmers' Bank Building, Pittsburgh, has been awarded the contract for building the new baseball park, including the stands, walls, buildings, etc., for the Pittsburgh baseball team, of the Pittsburgh Athletic Company. There will be a large amount of concrete work in this contract, as a large concrete retaining wall is to be built along Bouquet street, and all foundations for the entire collection of buildings will be of the same

material. The concrete plant has been set up and is now in use. Work will be continued all winter, as it is the intention of the owners to have the entire park ready for the opening of the National League season in the spring.

Harry F. Smith, Piedmont, W. Va., has been awarded the contract for the construction of the fine new concrete block residence that is being built at that place for John Wolverton. This will be the first residence of the kind that has ever been built at Piedmont.

The King Planing Mill Company, Grove City, Pa., announces that it has engaged in the manufacture of cement blocks, modern equipment having been installed. The company is doing a large business in general builders' supplies, and has already booked a number of good contracts for the cement blocks, including a full carload to be shipped to Pittsburgh.

Miller & Gibson, Sharpsville, Pa., representing Pittsburgh parties, have awarded a contract for the construction of a concrete block business block on Broadway, that city. The building will be 25 by 90 feet, and the contract was awarded to Baker & Taylor, of Sharpsville, who will manufacture the blocks on the premises.

The Consolidated Expanded Metal Companies, Keenan Building, this city, has been incorporated under the laws of Pennsylvania by Harvey B. Chess, Jr., William C. Charlton and James Adams, all of this city. The company will manufacture expanded metal for fireproofing, concrete work, etc.

### THE WEST COAST.

SAN FRANCISCO, CAL., Jan. 8.—December is not, as a rule, a very lively month in the building trades on the Pacific Coast, as operations are held back more or less by the rain, and the year-end conservatism causes new contracts to be held back until January. Last month, however, was rather above expectations, in San Francisco at least. The total value of the buildings for which contracts were let, and on which work has been started, was \$3,223,201, \$1,594,535 of which was for permanent structures of concrete, brick and stone. These figures do not include any of the municipal or State work, which is being done on numerous school buildings, sewers, and wharves. The December record is better than that of any other month of the year, with the exception of September. Loans on real estate have continued large, and as both municipal and industrial securities seem to find a ready market there is every reason to expect a year of active building. The architects' offices are now more crowded with work than they have been for a year past. A large number of contracts have been awarded since the first of the year, because of the great demand for business space expected next spring and summer, and on account of the advance in prices of building materials.

The concrete men will have to hustle this year, as the brick manufacturers are carrying on an aggressive advertising campaign. For one thing, they have gotten together and adopted a standard size for brick, and all common brick made in the neighborhood of San Francisco are now of a uniform size. Domestic cement is advancing a little, and much better prices are expected to prevail this year than last. The prevailing price is \$2.20 per bbl., f. o. b. San Francisco. Foreign cement is a little lower than it was a few months ago, though prices still have a wide range, from \$2.30 to \$3.25 being quoted. Stocks of foreign cement are gradually diminishing, and little is being imported. In fact it is now finding comparatively little demand in this market, and will be for the most part supplanted by the domestic article this year. Stocks of domestic cement are no longer burdensome, and in the anticipation of a better demand nearly all the plants are running full time.

One new feature of the market is the fact that after February 1 the retailers will be charged 10 cents instead of 5 cents each for cement sacks, and the same amount will be paid for the return of sacks in good condition.

The Cowell Portland Cement Company's large plant near Concord, Cal., is using for its power electricity from the recently completed plant of the Great Western Power Company. W. H. George, of the San Francisco office, is now at the works.

Assistant State Engineer R. A. Barker has made a report, in which he states that the tides of the Bay are destroying the efficiency of San Francisco's old seawall, which was built according to the method approved several years ago, at an expense of \$1,520,000. Barker recommends that in the new work piles be driven to bedrock, and a solid concrete seawall laid above them, preventing seepage and consequent settling.

The Healy-Tibbets Construction Company has applied to the Harbor Commissioners for a permit to erect a crushed rock bunker on the waterfront. This company has opened a quarry at Point Mallate, on San Francisco Bay, and up to a few weeks ago has been using bunkers controlled by other rock interests.

The American Constructing Company has taken a contract for concrete foundations for a large building at the corner of Mission and Main Streets.

The Clark Construction Company has taken a contract for the erection of a five-story reinforced concrete building for Wm. Wolff, on Market Street near Main, for \$29,000.

The Ransome Concrete Company has taken the contracts for construction work on the Columbia Theater, the foundation work to amount to \$9,000, and the other concrete and fireproofing work to \$27,000.

A lively fight is going on between two unions of plasterers in Oakland. The local of the International Plasterers' Union of America keeping up the old wage schedule, \$7 per day for plasterers and \$5 for hodcarriers. Another union, however, has recently been organized, and has fixed its schedule at \$5 for plasterers and cement workers, and \$4 for hodcarriers.

Long litigation is threatened between the E. B. & A. L. Stone Company, a large crushed rock and contracting firm of Oakland, and the Western Pacific Railroad. The company had contracts for grading and rock work for 75 miles of track, and claims in payment nearly half a million dollars more than the railroad company is willing to allow.

W. C. Griffin, owner of a rock crushing plant near Sonora, Cal., is figuring on increasing the capacity of his plant and installing water power.

The Pyramid Cement Products Company has been incorporated in San Francisco, with a capital stock of \$300,000, by F. W. and F. J. Neuman, J. P. Johnson, H. E. Peterson, N. Englander and C. E. Josselyn.

Richard Keatinge & Sons have taken a contract for concrete work on the seven-story building of the Haas Realty Company on Powell Street, for \$6,499.

The George Goodman Artificial Stone Company has taken the contract for artificial stone for the Palace Hotel at 11½ cents per square foot.

Practically all the back wings of employees of the Santa Cruz Portland Cement Company, at San Vicente, Cal., have been paid, and the work at the plant is progressing as usual. The property is part of that which recently passed from Wm. J. Dingee to the Crocker interests. The cement work of the larger warehouse, capable of holding 150,000 barrels, has been completed.

The California Lime Company is preparing to install a plant at its quarry at Gazelle, Cal.

The Washington Brick and Lime Company has purchased a site for a plant at Spokane, Wash.

Granger, Wash., has been selected by the Government as the location of a large concrete plant of the reclamation service, to be used in connection with the Sunnyside canal for the manufacture of the 400 headings to be placed in the main canal.

The Olympic Plaster Company has purchased a large site at Seattle, Wash., and will erect a factory, equipped with the most modern machinery. Work is to commence this month.

The Wenatchee Lime Company has been incorporated in Olympia, Wash., with a capital stock of \$25,000, by Fred Keiser, C. R. Wilson and A. L. Keiser.

Work is to begin at once on the large cement plant of the Balfour-Guthrie interests at Kendall, Wash. The contract for the construction of the works has been let to F. L. Smith & Co., of New York, and amounts to nearly \$1,500,000.

The Victor Portland Cement Company, of Los Angeles, has succeeded in financing its project, and will proceed with the erection of a plant to cost about \$1,000,000 at Victorville, Cal. A railroad will be built from the factory to the quarries.

### SOUTHERN CALIFORNIA.

LOS ANGELES, CAL., Jan. 10.—Showing an increase of \$264,000 over the corresponding month of 1907, December made a record in building that has brought forth favorable comment on the part of contractors and building material dealers. The increase amounts to about 40 per cent, indicating that business is almost twice as good as during the year of depression. Permits issued last month numbered 581, against 400 for the same month of 1907, the valuations being, for 1908, \$667,629, and for 1907, \$403,957.

Work will soon begin on the \$450,000 club building for the Los Angeles Athletic Club, at the corner of Seventh and Olive Streets. According to the plans of the architect the building will be most substantial, resting on a reinforced concrete foundation which will spread over the entire lot and extend

nearly to the curb lines of the street. All the girders, columns, walls, floors, etc., will be of reinforced concrete. The exterior will be built of ornamental concrete.

Los Angeles building material retailers are more than pleased with the business outlook for the coming year.

What was formerly the Union Lime Company is now the Summit Lime Company, Incorporated, with general offices at 303-304 Henne Building; lime plant at Tehachapi, Cal. There has been no change in ownership or management and the company will still continue the manufacture of the well known brand of Blue Summit lime. The officers are F. O. Wyman, president; W. J. Bailey, vice president; George M. North, secretary and treasurer. This company recently purchased the business of the University Lime Company, at Thirty-seventh and Hoover Streets, and will move the plant to a new location on Santa Monica Avenue, where they are constructing a large warehouse and establishing a general agency for their line of building material. It will be known as Agency No. 2.

Sam Lazarus and S. A. Walker, president and vice president, respectively, of the Acme Cement Plaster Company, arrived in this city several days ago. Mr. Lazarus was very favorably impressed with the building activity in this part of the state and looks forward to a banner year. Mr. Lazarus and Mr. Walker are here in the interests of their Los Angeles and Palmdale mills.

The Tejunga Rock Company, which was incorporated two months ago with a capitalization of \$200,000, through purchase and lease has acquired control of about 4,000 acres in the Tejunga Valley, or wash, about sixteen miles northwest of the city of Tejunga. On this tract a good quality of building stone, as well as vast deposits of sand and gravel, is located. The company has also acquired the rock-breaking plant at Sixteenth and Alameda Streets, this city. It is the aim to make it one of the most up-to-date plants in the country. Orders have been received for over 100,000 tons of crushed rock and 100 yards per day of sand and gravel.

With the completion of the new fire-proof office building of the Pacific Mutual Insurance Company, at Sixth and Olive Streets, one of the most substantial and artistic structures that has been erected in the city, has been perfected. The building was designed and supervised by Parkinson & Bergstrom, architects. It is a five-story and basement building, of reinforced concrete construction, faced with glazed terra cotta in the Corinthian style of architecture. The Richard-Neustadt Construction Company were the general contractors.

The final award for the construction of the East Main Street reinforced concrete bridge to Carl Leardt has been made by the Board of Public Works. The contract amounts to \$81,000. Work will proceed without further delay.

The California Liquid Asphalt Company, now operating its plant at the Summerland field, will shortly move its plant to a point near Edna, in San Luis, Obispo County. E. S. Hadley, of San Francisco, is president of the company.

The plans for the concrete retaining wall along the east side of Hope Street, north from the Third Street tunnel, have been made by the city engineer and approved by the Board of Public Works. The work is estimated at close to \$25,000. The board will soon advertise for bids.

Mayberry & Parker, engineers for reinforced concrete construction, 372 Pacific Electric Building, are completing plans for the construction of a reinforced concrete wall to surround the grounds of the public school building at Yuma, Ariz. It will be from eight to twelve feet high and about 1,500 feet in length, with several stairways. It will cost about \$10,000.

The Kling Company, general contractors, have moved their business office to 329 San Fernando Building, Fourth and Main Streets. This firm is also sales-agent for the Dewey Portland Cement Company and the California Marble Company.

#### Southern California Construction Notes.

Redondo—H. E. Huntington has begun the construction of one of the largest and finest hot salt plunges in America, to cost \$150,000. The bath house will be ready for use by next June and will accommodate 2,000 bathers. The building will be 278 feet long by 107 feet wide, and constructed entirely of reinforced concrete.

San Diego—The contract for the construction of the ten-story and basement building, to be erected on the northeast corner of Fifth and D Streets, has been let to R. B. Shields & Sons for \$190,727. The first story is to be faced with white marble, and the upper nine stories with pressed brick of a granite color and terra cotta cornice, etc. The walls, floors and partitions will be of reinforced concrete.

## CLEVELAND AND VICINITY.

CLEVELAND, O., Jan. 15.—The interest of the trade here has centered, of course, during the month on the holding in this city of the annual convention of the National Cement Users' Association. The manner in which it was held, and the educational value to the city in general, was greatly appreciated, and the trade generally will be glad to welcome again such a class of men as visited the city during the week of the show. The size and importance of the industry could not have been impressed in a more favorable manner, and it is safe to say that it will reflect its benefit upon cement construction here. Already well up in the lead of cities using concrete, Cleveland can still learn a few things from a convention of this sort.

Several new buildings of considerable magnitude have been announced during the past month. It is expected that they will be gone on with the first thing in the spring. One is a new six-story building to cost about \$250,000 for the Cleveland Athletic Club. A site is to be decided upon within a few days. The building will be of fireproof construction throughout and artistic in appearance. There will be a large swimming pool and an auditorium seating 1,500 persons.

A new twelve-story hotel for East Ninth Street is planned by George A. McKinnie, of the Baldwin Hotel. It will have a frontage of eighty-five feet and a depth on Chestnut Avenue of 125 feet.

F. M. Kirby will erect a new five-story fireproof structure on Euclid Avenue near East Fourth Street to replace the structure razed by fire a few weeks ago. John B. Knapp, of Wilkesbarre, Pa., is architect. Contracts will be let early in February.

Searles, Hirsch & Gavin, of Cleveland, have prepared plans for an \$80,000 fireproof schoolhouse for the town of Fremont, O. Work will be started early in the spring.

The Peerless Motor Car Company is to complete its group plan of buildings by the erection of a handsome office structure. The building will be of fireproof construction, with a facing of pressed brick. The interior construction will be of concrete. Milton Dyer is architect.

A rather remarkable record was made by the Reaugh Construction Company in the erection of the new Bradley block on Prospect Avenue. This is the first eight-story concrete building to go up here under the new code. The work was done in eight weeks—a story a week, which for a heavy building about 150 feet square is going some in the late fall. The first four floors will be ready for occupancy by March 1, according to the architect.

There has been no increase in the price of cement as yet, though it is expected that the boost will come very soon. Heavy deals are already under way, and contractors are beginning to make their contracts for the year. The dealers are not stocked up very heavily this winter, but are beginning to figure on laying in supplies within a very short time now.

The paving industry for the coming year seems very bright. The city will spend, according to present estimates, about \$1,000,000 on new pavements this year. Most of these will be of brick, set on concrete bases. The county will spend an even greater sum on brick roadways, which will run through the farming districts adjoining the suburban villages which cluster about the city limits.

Cleveland will send a good-sized delegation to the annual meeting of the Ohio Builders' Supply Association, which will meet at Toledo on February 4 and 5. Both president and secretary are Cleveland retailers, and they will be royally supported. Delegates have been invited to bring their wives.

Robert C. Mitchell, in charge of the brick department of the Cleveland Builders' Supply Company, has been appointed first deputy county treasurer by the new treasurer, George E. Myers. Mr. Mitchell will not sever his connection with the supply firm for some months yet, as he does not assume his new position until September 1 next.

William H. Hunt, general manager of the Cleveland Hydraulic Press Brick Company, left early this month on a trip to South America, where he will visit Peru. En route he will visit the Panama canal and make a minute study of conditions along the big ditch. Mr. Hunt was accompanied by his sister, Miss Mary Hunt. He will be gone some weeks.

Robert L. Quiesser, sales manager for the Hydraulic Press Brick Company, has been named as an aide-de-camp to Governor Harmon, the new chief executive of Ohio. Mr. Quiesser is a lieutenant on the staff of Colonel Zimmerman, of the Fifth Regiment, Cleveland, and is also captain-general of a new commandery of Knights Templar formed a short time ago.

On the evening of December 30 there died in Cleveland one of the best known men in the clay in-

dustry in the country. Byron W. Robinson, of the Robinson Clay Products Company, of Akron, O., passed away after a brief illness from a disease of the brain brought on by his active life. In addition to being at the head of the clay products concern Mr. Robinson was president of the First National Bank, of Akron, and interested in other big commercial concerns. He is survived by a widow and six children. He succeeded his father in the clay industry, who launched the business in Akron many years ago.

John A. Kling, president of the Cleveland Builders' Supply Company, has been awarded a verdict of \$6,000 in his suit for damages against the corporation owning the Garfield Building on account of the terrible crushing he suffered in one of the elevators in May, 1906. It is but a mere fraction of the cost of medical attention, the suit having been brought for \$200,000, which in such a case is all too small a sum.

## BUFFALO, N. Y.

BUFFALO, N. Y., Jan. 17.—Governor Hughes, of New York State, in the annual message says that contracts to the amount of \$13,421,771 were awarded during the past year in connection with the barge canal improvement in this State. There are now in force contracts for building 194 miles of canal at a total price of \$35,595,544. There were 809 miles of good roads completed in this State in 1908.

It is reported that the Niagara Cement Company will spend \$250,000 on increasing the size of its plant in this city. The extensions will probably be completed by July.

An addition of concrete work will be made to the plant of the Niagara Silk Mills at North Tonawanda, N. Y.

A sketch recently printed in regard to W. M. Hurlbut, of Arkport, N. Y., says that he deals in cement, plaster, brick and many other articles used in construction work.

At a recent meeting of the Ottawa, Ont., Chapter of the Ontario Association of Architects, W. J. Francis, of Montreal, read an admirable paper on the economical advantages of reinforced concrete construction.

Much concrete will be used in connection with the factory to be built by the Automatic Transportation Company, which has bought a site in this city from the Buffalo Cement Company.

T. W. Hyde, of Guelph, Ont., has patented an attachment for casting drip channels in cement mills, cornices and other such like articles.

Congressman Porter has offered a bill at Washington to improve Fort Niagara at an expense of \$15,000. It is said that two concrete breakwalls will be built to protect the ramparts from the action of the waves of Lake Ontario. The stone wall and fortifications will be restored and other changes will be made.

A line of concrete telegraph poles has been erected through New Brighton, Pa., by the Pennsylvania Railroad. The poles are 30 feet long, 14 inches in diameter at the bottom and 6 inches at the top. Many believe that this style of pole is much superior to the wooden kind, and the experiment of the railroad is said to be proving very successful.

The value of concrete is so much appreciated by Assemblyman Murray, of New York, that he has introduced a bill at Albany making it compulsory that stock yards be constructed of concrete and steel and paved with concrete or brick. The purpose of the bill is to make the yards clean and prevent disease among cattle. It was reported that modern stock yards, in the construction of which much concrete will be used, will be built at East Buffalo by the Farmers and Drovers' Stock Yards Company, of New York. Thomas L. Hisgen, of West Springfield, Mass., is president of the company, which is capitalized at \$2,000,000.

A new factory built of concrete has just been completed by F. M. Blystone, a mattress manufacturer of Elmira, N. Y.

A. W. Summers has a contract to do some concrete work in connection with new stables being built in Delaware Park by the city of Buffalo.

H. B. Furman, a mason inspector, has built a unique concrete safe at Lock 7, Erie Canal, at Vischers Ferry. Plans for canal contracts will be safely protected in the safe in case of fire. The steel door is lined with asbestos and there is a combination lock. I. S. Matten, who is in charge of the engineering corps at that point of the barge canal, designed the safe.

Edmond Gunn, 25 Toronto Street, Toronto, Can., will receive bids up to January 30, 1909, for the purchase of the mill, machinery, roadbed, marl deposits, etc., of the estate of the Western Ontario Portland Cement Company, Limited. The plant is situated in the village of Atwood, in the County of

Perth, Ont., and has been operated for three seasons, with an estimated capacity, it is reported, of more than 300 barrels of cement a day.

The Randolph Macdonald Company, of Toronto, Ont., has secured a contract amounting to \$450,000 to build section No. 7 of the Trent Canal in Canada. The section is about nineteen miles in length. A lock and dam will be built at Hastings, Ont.

Senator Henry W. Hill, of Buffalo, is at the head of the committee which will consider the plan to save New York State a big amount by getting the Federal government to deepen the upper Hudson River so that it will be navigable for 1,000-ton barges, such as will be used on the barge canal.

The Canadian Clay Products Manufacturers' Association recently held its seventh annual convention at Brantford, Ont.

The Susquehanna River Improvement Association has been formed for the purpose of improving that waterway.

The Lathrop, Shea & Henwood Company, of Buffalo, are finishing the third of three concrete and steel buildings for the American District Steam Company, of Tonawanda, N. Y. The structure is 120 feet long and 100 feet wide, with a gable roof, high at the peak. The side and end walls are made of concrete blocks made of giant cement, while the roof is steel and reinforced concrete.

It is expected that several fine concrete homes will be built in Buffalo next summer. In this city there are many evidences of the usefulness and durability of concrete. The concrete foundations of the Great Eastern and Dakota elevators, for instance, carry the weight of millions of tons of grain every year.

Justice Britton, of Toronto, Ont., has granted an order winding up the affairs of the Colonial Portland Cement Company, of Wiaterton, Ont.

The National Roofing Company recently held its third annual banquet at Tonawanda, N. Y., for its salesmen.

The foundation for the great lock at the lower end of Moss Island, near Little Falls, N. Y., is being put in by the barge canal contractors. It is said that the lock will be the deepest in the world and will drop boats forty-two feet from the barge canal into the Mohawk River.

County Engineer Diehl, of Buffalo, has stated that the total amount spent in good roads improvement and other contract work in Erie County, N. Y., in 1908, under the direction of the County Supervisors, was \$73,268.

J. G. Sing, a Canadian government engineer, in a recent address before the Engineers' Club in Toronto, Ont., said that a new canal is likely to be built from Lake Erie to Lake Ontario, with locks 700 feet by 75 feet, with 24 feet of water on the sills and the number of locks reduced to six. If this is done the largest vessels will be able to enter Toronto harbor.

The Canadian Pacific Railroad will spend this year \$30,000,000 in construction work on its western lines.

The Builders' Association Exchange, of Buffalo, has elected the following officers for 1909: President, Frank N. Farrar; vice-president, William B. Ogram; treasurer, Frank C. Kempf; trustees, M. G. Farmer, C. B. Jameson and George Schaaf; arbitration committee, John W. Henrich, Christian Flierl and Theodore Metz.

According to statistics prepared by the Bureau of Buildings, Buffalo, \$6,847,000 was expended in building in this city in 1908, as against \$8,411,000 in 1907.

## NEW ORLEANS, LA.

NEW ORLEANS, LA., Jan. 15.—Surely the manufacturers of concrete building material have no complaint to make of the year 1908, bad as it was on most enterprises all over the country. Or if they did it was not from the South, for this section of the country is fast returning to the days long, long ago, when buildings were erected of concrete that not even earthquakes destroy and only the dust of ages and volcanic ashes can cover up. Concrete has gone into every sort of structure from foundation to roof. It has revolutionized this old city and made it possible to have foundations that time will not decay and that will bear the weight of as tall buildings as they have a mind to erect—foundations as solid as the everlasting rocks. No building is now erected in New Orleans without a concrete foundation of some sort. Even the one-story building, if only a shed, has its foundations of either blocks or concrete piles.

Entire buildings have been erected of reinforced concrete. Mills and elevators, warehouses, apartment houses, residences, and even the immense and costly court house is more reinforced concrete than anything else. Its walls, its floors, its partitions, from

foundation to dome, is of reinforced concrete faced with marble. The plans were changed from steel and saved over \$100,000.

H. Ball Bowers, the manager of the Carolina Portland Cement Company, spent the Christmas holidays at his home in Chattanooga, Tenn., but is back at his desk, one of the busiest men in town. He says his company has been made the distributors of the Berkshire white Portland cement, the only pure white cement manufactured in the world. He is having a special design made to be placed in the display rooms of the Mechanics' and Dealers' Exchange. Mr. Bowers expects a good year this year and is preparing for it.

F. Codman Ford is rejoicing over a new reinforcing metal he is introducing, made by the American Steel and Wire Company. It has triangular and square meshes and affords an even distribution of the steel and reinforces in every possible direction. H. S. Doyle, the chief of the construction department of the American Steel and Wire Company, is located in the Commercial National Bank Building, Chicago.

MacKenzie & Biggs, architects, have built a number of large concrete buildings and a world of small ones. Among the larger buildings have been the Cassa Grande, a six-story apartment house; a dormitory for one of the schools of the state, a large steam laundry and a cow barn for one of the large dairies.

The locks of the Harvey canal are to be of concrete, which the engineers have decided is by far the best material to be used.

The Audubon building plans have been changed from a fourteen-story building to an eight-story, and the contractors are having all sorts of work trying to reconstruct the deep laid reinforced concrete foundations. The removing of the eypress stumps was a job worth while, but nothing to be compared to this.

Concrete blocks are gaining in favor, too. Some very handsome structures were completed late in the year. Notable among these were the First Baptist church, Francis McDonald, architect, and several three-story dwellings designed by the same architect.

The building materials field has been invaded by the organization of a \$1,875,000 company to manufacture cement and lime and their by-products. The company will be known as the Marengo Portland Cement Company and will be domiciled in this city. D. F. Clark is the president of the company, J. W. Martin the vice-president and treasurer, James Renshaw is secretary and R. W. Frazier the general manager. Following are the first board of directors, who with the officers will serve until the first Monday in December, 1909: D. F. Clark, Jr., J. W. Martin, H. T. Rand, James Bradshaw and D. A. Dyer.

The object of the company is to manufacture, buy, sell and deal in cement and lime and their by-products. The company has not yet commenced business, but expect to very shortly.

Mr. Biggs, of MacKenzie & Biggs, is yet planning to build a concrete boat and believes it will be the thing. His building work keeps him too busy, however, to spend time on pet theories.

Mr. Goldstein, the architect, is as great a concrete enthusiast as ever and is introducing it wherever it is acceptable, not only for foundations but for entire buildings.

#### LOUISVILLE, KY.

LOUISVILLE, KY., Jan. 15.—Though on account of the time of year and the bad weather which this part of the country, in common with others, has suffered recently, there has been little actual business on the part of the concrete men and others interested in the various branches of the building trade, uniformly optimistic statements were given by Louisville manufacturers and contractors in response to questions by a representative of ROCK PRODUCTS. Not only was the more or less surprising statement made in many cases that 1908 had either held its own with or had bettered the record of 1907, but it was stated on all sides that 1909 should be a banner year in every line. Without exaggeration, there was not a single pessimist in the whole town.

To give an idea of the prospects from a building standpoint, a few will be noted. It has been reported that Benedict & Co., caterers, will build a five-story reinforced concrete building on Fourth Avenue, between Chestnut and Walnut Streets, at a cost of \$100,000. The First Christian Church, located on the corner of Fourth Avenue and Walnut Street, has been sold, it is reported, for \$360,000, and the purchasers will erect a large building of some sort there, while the congregation will have a splendid edifice built in another part of the city. The sale of the old postoffice, at Third and Green Streets, by the warehouse company, which owns it, but has not used it for a long while, is rumored, and it is said, on good authority, that it will shortly be razed to make way for the terminals of an interurban railway.

It is also reported that the Caldwell estate is planning to build a skyscraper for office purposes at Fifth and Jefferson streets, while announcement has been made of an addition, of concrete and stone, which is planned for the Children's Free Hospital. It will cost \$50,000.

The Good Shepherd's Home will also make an addition for the use of colored girls at a cost of a good many thousands. The Standard Club, a Jewish organization, has sold its building and is looking for a new site where a clubhouse can be erected, while it is stated, on excellent authority, that the old building and the adjoining property will be replaced with a big structure for the use of a music house here. The proprietor of the Eckert Hotel has disposed of that building and is said to be contemplating the erection of another, and the Pendennis Club, whose building at Fourth and Walnut, has been in a state of greater or less dilapidation, is expected to either remodel or build an entirely new house.

The Country Club and the Golf Club have just consolidated, which means a new building, while definite plans for the construction of buildings for the new Audubon Country Club have been announced. The Board of Tuberculosis Hospital is to erect a concrete administration building and hospital building on its site this spring, and the Girls' High School Alumnae are considering the erection of a clubhouse. These are all to be listed under the general heading of "prospects," of course, but the builders have their eyes on all of them, and the chances are that a large number will be realized in big contracts to be let in the next few months.

Another source of a good deal of business has been and is continuing to be the sewer work. The Board of Sewerage Commissioners is of course in charge of the construction of the big \$4,000,000 system, but the Board of Public Works is to do considerable smaller work on its own account, which is expected to produce good results for the pipe men. The Board of Public Works will spend \$75,000 for lateral sewers this year, these being intended to connect with the larger trunk sewers being constructed by the Sewerage Commissioners. This building of the connections, it is stated, is a work which will extend over several years.

The Board of Public Works has also won the thanks of the sewer pipe and tiling men by insisting upon house connections being made with the sewers. This is required for new buildings by ordinance.

Interest in the sewer construction work was renewed by the visit here of several Eastern experts recently. They inspected also the new filter plant of the water works, which has been constructed with the use of a great amount of concrete and cement work. The first complete work of the sewers is Section A of the Beargrass interceptor, which extends from the Bourbon Stock Yards to the river, a distance of 4,600 feet. It was built by the E. G. Nave & Bros., of Portsmouth, O., at a cost of \$100,000. Contracts for the construction of Section D of the interceptor was let to T. J. O'Connell, of Baltimore, Md. It is 2,000 feet long and is worth \$40,000. Henry Bickel & Co., of Louisville, were awarded a contract for the Hoertz Street sewer, to cost \$30,000, and Schultz & Vogt, of Louisville, will built the Aubin Street sewer for \$12,000. Several big Southern outfall sewer contracts will be let later this month.

General Manager Gray, of J. B. Speed & Co., said that the cement situation is rather quiet just now, and that the mills at Speeds, Ind., have been closed, but will open again between February 1 and 15. During 1908, he said, the company, with an increased capacity made possible by improvements late in 1907, produced about 250,000 barrels of Portland cement and about the same amount of hydraulic. This was a big increase in the production of Portland, and a slight falling off for hydraulic cement.

Mr. Gray commented upon the largely increased use to which cement is being put in connection with the construction of sidewalks. He said that one barrel is used to every 50 square feet of sidewalk and that that kind of paving is coming into more general use every year. Many small towns through the South put in the granitoid walks in 1908.

Mr. Gray believes that there will be a good demand for cement this year, but he does not expect as rapid a resumption of business as some expect.

A great deal of interest is being taken in the report which is to be made to the Fiscal Court by a special committee appointed to investigate the condition of bridges throughout Jefferson county. It is understood that there are forty or fifty of these, and that the committee will recommend that the present wooden structures, most of which are in a dangerous condition, be torn down and concrete bridges substituted.

"March 4," remarked C. M. Timmons, sales manager for the Kosmos Portland Cement Company,

"will be marked by two events of national importance. One will be the inauguration of President Taft; the other the resumption of operation by the Kosmos company. Though the erection of the plant to take the place of that destroyed by fire last September has been somewhat delayed by slow arrivals of steel and other materials used in its construction, it is believed that it will be ready along with the subject of the inauguration."

Mr. Timmons spent the Christmas holidays at his home in North Carolina. The company will have an exhibit at the convention of the National Builders' Supply Association, which meets here February 8 and 9 at the Seelbach Hotel.

Isaac Tyler, who has been making arrangements for the convention, has secured the services of Mayor James F. Grinstead and F. W. Keisker, president of the Commercial Club, to make addresses at the opening of the convention, while R. W. Brown, managing editor of the *Louisville Times*, and Judge Matt O'Doherty will be the speakers at a banquet, which is to be given during the convention. The banquet will take place at the Seelbach, and about 400 are expected to sit down.

R. E. Brandeis has entered the cement field here. He is representing the Bedford Cement Company, which has never been represented here before, and has offices in the Lincoln building.

T. L. Barrett, of the Donigan-Barrett Company, is attending the convention of the National Cement Users' Association in Cleveland. Several other Louisville men also went to the convention.

J. H. Ohligschlager, of the National Concrete Construction Company, said that the weather has been rather favorable for concrete work this winter, as only during a few days last week has his force been compelled to quit construction work. The National has just been awarded the contract for the construction of a five-story office building at Winchester, Ky., by M. T. McElroy. It will cost \$40,000. The work on the Evansville Furniture Exchange Building has been almost completed, as it is now under roof. The company is figuring on several good-sized out-of-town jobs, and considers local prospects good.

Last year was a prosperous one for the National, because of the fact that it had several big contracts running all through the year. They included the Bourbon Stock Yards, the Fireproof Storage Company's plant, and the Evansville buildings. The storage plant constructed here was a splendid type of reinforced concrete, and had several unusual features, including its own refrigerating plant, a cold storage room for furs, an auction room and a freight elevator of unusual proportions.

Mr. Ohligschlager said that the company is experimenting with a preparation known as Frigite. It is intended to enable concrete to be worked in all weather, as it is supposed to prevent freezing until after the concrete has set.

James A. Hymisch, formerly engineer for the National Concrete Construction Company, has resigned to go into the concrete construction business with a relative on Long Island, N. Y. He made a good record here.

The city of Louisville is planning to build a concrete wall, twenty-eight inches high, around the old Western Cemetery, which has fallen into disuse. Bids will be opened January 25, and the work will cost in the neighborhood of \$4,000. A concrete walk around the cemetery will also be constructed at an approximate cost of \$2,800. The cemetery, which is the last resting-place of many of the pioneers of Louisville, became so ill-used that considerable public indignation was aroused.

The Central Concrete Construction Company reported that the bad weather was having an adverse effect on business, though some foundations and paving work are under contract. The outlook is excellent, as is indicated by the fact that many inquiries for block residences have already been received, construction being contemplated next spring. The success of this form of construction is illustrated by the fact that a local man has asked the company to erect an exact duplicate of a concrete block residence built last summer on Everett avenue, in the Highlands.

The engineer's department of the city is preparing specifications for over 100 new pieces of sidewalk, mostly granitoid, contracts for which will be let early next spring. Almost as much more will be prepared for letting during the summer. The city is planning an almost unprecedented amount of sidewalk construction of the granitoid type.

Building in Louisville in 1908 amounted to \$2,914,698, a falling off of \$117,000 for the year, as compared with 1907. The final months of 1908 made a good showing, however, December having a total of \$130,000, as compared with \$56,000 for the last month of the previous year.

## ROCK PRODUCTS

The Southern Roofing and Paving Company has just secured some excellent pieces of work, and is to put roofs on freight depots of the Louisville & Nashville in Mobile and Jellico, having just completed a big job for the L. & N. at Pensacola, Fla. The company has also the contract for roofing the power-house of the new State Capitol at Frankfort. The L. & N. work consisted of asphalt and gravel roofs. The company will also roof the new Keisker Building, and will put the roof on a six-story building on Fourth Avenue, which is to be reconstructed. Warren asphalt will be used on the latter, while gravel is the type of roof of all the others.

"The recent snows, which do more damage to roofs than much rain," said a member of the company, "will probably be productive of much business, as we have already had many inquiries."

Henry Bosquet, proprietor of the famous "Old Blue House," on Fourth Avenue, in Louisville, has been elected vice-president of a new sewer pipe company at Cannelton, Ind. Tiling will also be manufactured by the new concern.

L. Just & Co., building contractors, with offices at 2117 Evans Street, have assigned, with assets of \$5,000 and liabilities three times as great. The firm was on the accommodation paper of R. J. Finek, the lumber dealer, who recently went into bankruptcy. The company has been in existence for about six years, and has erected many big buildings and plants, among them being the Central Stock Yards.

Among the most important items in 1908 building operations was the erection of the magnificent \$100,000 residence of Thurston Ballard, at Glenview. It is constructed of reinforced concrete and steel, and is said to be absolutely fire-proof. The residence is unique in this part of the country in that regard, but Mr. Ballard had experienced the destruction of his former home, which cost \$80,000, and which was burned, with many valuable paintings.

S. F. Troxell said that things are quiet on account of the weather, but that the outlook is good. More contracts are now in hand than had been made up to March of last year, and he is thoroughly satisfied. Pipe and boiler coverings are the chief products of his plant, and there is a good demand for them.

The National Roofing and Supply Company reported that 1908 business was better than 1907. Cement work was greater in volume than roofing, though the latter picked up considerably during the past few months. The asphalt floor of the Grocers, Ice and Cold Storage Company is one of the pieces of work already booked, and a gravel roof for the penitentiary at Frankfort will be put on. The company has the contract for roofing the new building of the DeMolay Commandery and a tobacco warehouse on West Main Street. There is already more work booked than at this time last year, and the prospects are for a good year in the trade.

The head of the Ingram Roofing and Asphalt Company, who has offices in the Builders' Exchange, said that not only is the outlook bright in his particular line, but that the members of that organization all regard the situation as improved and the prospect good. Though 1908 showed a falling off in business, Mr. Ingram said that work for the new year is already piling up, and that it is likely to be the best for a long while.

The Atlas Wall Plaster Company had its annual election of officers January 12, and several changes were made. William Selke became president, succeeding M. T. Miner, who disposed of his interests to the new head. George E. Stopher was elected vice president and general manager, succeeding W. P. Armstrong. A. Braer became secretary and treasurer, vice S. W. Stopher. The company is in fine shape, and is doing a first-rate business. Nineteen hundred and eight showed up well for it, with its Atlas wood fiber plaster leading in business.

John Campbell, of the Kentucky Wall Plaster Company, said that business is pretty good, considering that this is the dreary winter time, and that there will be plenty of work next season. Last year showed only a slight falling off in business.

The Ohio River Sand Company is having a new harbor boat built to replace one that is being dismantled after twelve years' service. It is being constructed at Marietta, O., and the hull will be finished by February 1, the machinery and the rest of the boat being provided here. The company is thinking of installing a rock crusher to use at the island where it digs sand, the idea being to utilize the boulders which are dug up and which now are simply thrown back into the river. John M. Settle, one of the officers, said that this had not been finally decided upon, however.

The annual election of the Builders' Exchange resulted in the following being chosen to represent their respective trades in the organization: J. C.

Meyer, plumbing; F. A. Clegg, heating engineers; Joseph Ingram, gravel roofers; W. B. Pell, painters; W. Hume Logan, ornamental iron; Charles Daubert, electrical; Fred Gott, cut stone and marble; E. G. Heartick, sheet metal; Andrew Denzinger, rubble masons; Dudley Gregory, brick.

Burrell & Walker said that there is little doing now, but that prospects are favorable. The sewer pipe which the company manufactures has been disposed of heavily in Louisville and New Orleans during the past few months, owing to the construction of big sewerage systems in both cities. Flue linings are also in good demand, the passage of an ordinance requiring all new flues to be so lined having had a good effect.

The Southern Brick and Tile Company suffered an interruption of good business through the bad weather. Prospects are favorable, however, for a resumption of heavy work early in the spring.

The Hydraulic Brick Company, of Louisville, has elected officers as follows: A. Dumesnil, president; James Clark, vice president; Walter S. Adams, secretary and treasurer; Edwin Gheens, Louis H. Wymond, H. Dumesnil and Donald McDonald, directors. President Dumesnil reported that only 30,000,000 brick were used in Louisville in 1908, as compared with 35,000,000 the previous year, the decrease being due to the small amount of building.

A \$10,000 addition to the Highland apartments, at Broadway and Finzer Avenues, is planned. Part of it will be reinforced concrete, and 165 cubic yards of it will be used.

The Louisville Fire Brick Company is experiencing a gradual improvement in business, though it is not extensive as yet. Everybody is confident, and this is expected to have the effect of restoring normal conditions. The steel and iron situation is not as encouraging as it has been, and that is having a bad resultant effect on the fire brick manufacturers. Reckless cutting of prices has also been in evidence lately. The plant of the company has been running full time recently for the first time in several months. Last year's business was poor, showing a volume only half as great as that of 1907.

### CHICAGO.

CHICAGO, ILL., Jan. 20.—To cover the trade conditions among the local cement, lime, crushed stone and builders' supply dealers should really require almost as many headings as the subjects treated of. We have separated the cement industry and tried to cover the situation thoroughly in that department. The lime business is showing improvement, this being the best January for several years past. Trade is more brisk and sales more numerous than any one anticipated at this time of the year. Prospects are more than encouraging and the lime men are sanguine, predicting a prosperous year. The crushed stone industry is in a quiescent condition at present. Nothing is doing and nothing can be expected to be done until spring opens or at least until weather conditions are settled. Yet these men are in the most optimistic frame of mind. They claim that a banner year lies before them, that construction will simply be enormous this year and all are impatiently waiting for the season to develop. Country roads are to be improved. The railroads are expected to use a fabulous quantity for ballasting their road beds and the demand from the local traction companies, they say will be tremendous. This, with the multiplicity of other calls that will be made for their material, certainly is indicative of enthusiasm on their part when speaking of the prospects for 1909.

As for the builders' supply men, they appear to be in a better condition than those already mentioned. Last year was a magnificent one for them. Trade was active, strong and good during the entire year, and the weather alone has curtailed their business now, and this only necessarily so. Chicago has not increased its buildings and constructions to such an extent previously in years and from all indications the beginning has only been made. The architects' boards are full of work. The contractors, all are loaded with contracts, while indoor work has never ceased for a moment. Many big jobs are contemplated and 1909 is expected to surpass all previous records.

E. J. Cormack, vice president of the Wisconsin Lime and Cement Company, whose offices are in the Chamber of Commerce Building, states that business conditions at the present time are most excellent, that in all lines in which it is possible for operations to be active, trade is good. At this season of the year, building to a great extent is stationary, but this January makes a better showing than many previous Januaries. Their plastering trade is exceptionally heavy and all indoor work is much larger than generally at this time of the year. So many jobs yet remain to be finished and the call for material is so

steady and strong that Mr. Cormack says it is simply phenomenal.

All indications point to a most successful year. By spring as soon as the weather opens up, Mr. Cormack says, he expects to be rushed with orders. He predicts that the present year's business will be much larger than that secured by them during last year and when it is borne in mind that their trade in 1908 was not only more in volume, but larger in amount, than it had been for several years previously, this means that in his opinion a wonderful activity in building and construction must prevail. In fact, he says, Chicago will experience a building boom that will astonish itself and that building and construction will be much greater than it has been for years past. And this opinion is not founded on mere optimism, but from inquiries, options and contracts that are now being offered and made by them.

At their annual meeting for election of officers, held a few days ago, all the old officers were unanimously reelected to fill their old positions. These are: Joseph Hock, president; Edward J. Cormack, vice president; Adolph Loeffler, secretary, and Carl Ruedebusch, Jr., treasurer.

E. H. Jones, offices 718 Chamber of Commerce Building, who entered the builders' supply field last summer, says that trade is not booming with him just at the present time, but that there is considerable activity in letting contracts and that he is figuring on quite a number of them. These contracts cover several very large buildings and the material will run into big figures. He says that indications are that business will be exceedingly active, that operations will begin as soon as conditions permit, and that the year will be a prosperous one.

He has secured the sole agency for Chicago for Best Bros.' Keene Cement, and states that the demand on this high grade of goods is increasing steadily. This material is now being used on the new Naval Station, North Chicago, and also on the new Government Works at Fort Sheridan. Mr. Jones is also agent for Chicago for the Acme Plaster, and he was in the plaster business for eighteen years before he embarked in his present enterprise.

A. C. O'Laughlin, of James & A. C. O'Laughlin, whose offices are located at 172 Washington Street, states that trade is very quiet now, nothing doing at present, but that conditions are good and as soon as the weather permits he expects business to boom. He says that there will be a tremendous demand for crushed stone this year, as much work is to be done, and that plans are already matured for an immense amount of construction. They expect to resume operations at their quarry, which is located at Bellewood, Ill., some time in March or as soon as practical. Although this is their off season, there is much that requires their attention and they are kept continually busy.

Mr. O'Laughlin says that he looks for this year to be a banner year for the crushed stone men. He asserts that improved country roads will be undertaken largely, that the railroads will use immense quantities of crushed stone for ballast, and that the traction companies have hundreds of miles of improvement of streets between their tracks to complete. Considering all these things and the many other demands that are to be made on the limestone quarries, he states that he can form no other conclusion than that 1909 will be a magnificent year.

T. P. Henderson, of the Chicago Union Lime Works, offices Chamber of Commerce Building, states that business at the present time is quiet, although it is considerably larger than it was a year ago, and about equal to that secured during January, 1907. He says that all indications point to an active spring demand and that trade conditions are most excellent. He is figuring on some nice jobs, which he hopes to obtain, but nothing definite has been settled yet, as it is most too early in the season for large contracts to be closed. He looks for a steadily increasing business as the season advances and is confident that 1909 will be a good year, a much better year than 1908 and perhaps even better than 1907. He states that prices may be expected to advance, not to any great extent, but enough to make a healthy, strong market.

Speaking of the lime business particularly, Mr. Henderson says that it is better now than it has been for several years past at this time of the year, and that the indications are that the demand will be constant and large throughout 1909. Conditions look good to Mr. Henderson and undoubtedly he has facts to back up his statements.

#### Construction News.

Redlands—The board of trustees of Redlands is receiving bids for the construction of a new reinforced concrete jail building; separate bids being called for the steel cells and appurtenances.

Lindsay—B. F. Thorpe, a Covina cement contractor, is going to establish a factory in Lindsay for the manufacture of cement drain tile.

(Continued on page 60.)

ALL THAT THE NAME IMPLIES

# SECURITY

PORTLAND CEMENT.

"BETTER THAN OUR SPECIFICATIONS REQUIRE"  
B. T. FENDALL, City Eng., Baltimore.

"OUR TEST IS QUITE SEVERE. CONGRATULATE  
YOU ON THE EXCELLENT SHOWING MADE."  
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**"OK" QUALITY**

"OK" Cement is ground 85% fine on the 200 mesh sieve—and contains 10% or 38 lbs. more actual cement than the coarser ground cements—OK Cement will carry one third more sand than other brands—It is the highest possible grade and guaranteed in every particular and to meet all requirements of the U. S. Army and American Society for Testing Materials.

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**HIGHEST GRADE of  
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Every Barrel Absolutely Uniform.  
R. R. facilities especially adapted for prompt shipments in the northwest.  
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**The Bonner Portland Cement Co.**

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Manufacturers of  
**THE HIGHEST GRADE OF  
PORTLAND CEMENT**  
IN THE WORLD  
Operated under the  
**CAFFERY SYSTEM**

Long Building, KANSAS CITY, U. S. A.

A Standard Portland for Universal Use.

Daily Output 17000 Barrels. Plants at Chicago & Pittsburg.

A new book "Portland Cement Sidewalk Construction" for free distribution—a thorough and comprehensive discussion of the correct methods of laying concrete sidewalks—full of helpful practical suggestions.  
Write for a Copy

**Universal Portland Cement Co.**  
CHICAGO PITTSBURG

**The BATES  
VALVE BAG**

The strongest and most perfect package for shipping and storing cement

Economical packing and smallest percentage of breakage  
IT IS WATER PROOF!

**The West Jersey Bag Co.**  
Front and Elm Streets  
CAMDEN, N. J.



**ALL THE GREAT CITIES OF THE MIDDLE WEST  
STAND ON SOLID **Utica Cement** FOUNDATIONS**

**TO THE SUPPLY MAN**

The only cement for general building purposes and all kinds of public improvements that always fills the requirements and gives satisfaction.

Not one failure in the record of seventy years of constant use. It's the kind that the established contractor prefers, and because it is fully guaranteed, should be used instead of any other cement.

Your supply for the coming busy season can be provided for now to your advantage.

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**Utica Hydraulic Cement** can be used to great advantage in underground and especially under-water engineering work, where no other cement in the market will serve the purpose.

You can save money by using **Utica Cement** in many places where it is superior to all competition.

Investigate this statement and keep a better profit, provided you need the money.

We will gladly show you figures and details that are both convincing and profitable to you.

**OUR GUARANTEE GOES WITH EVERY BARREL AND EVERY BAG**

**Utica Hydraulic Cement Company**  
**UTICA, ILLINOIS**

# Cement Pavements and Concrete Blocks

Cost less, look better and last longer when made with

## EDISON PORTLAND CEMENT

**COST LESS** because "Edison," weight for weight, binds more material with same strength or same material with more strength.

**LOOK BETTER** because always made from cement rock from one quarry, therefore invariably uniform in color.

**LAST LONGER** because sand, gravel or crushed rock is bound by cement that **fills the mould** without voids and makes concrete as hard as granite.

### Uniformly 10% Finest Ground in the World

We have published a new handsomely illustrated booklet which we will be glad to send to you on request. Write for it now.

## Edison Portland Cement Company

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USE

## Superior Portland Cement

IN YOUR CONCRETE WORK and be assured of satisfactory results

Ask for a chemical analysis of Superior Cement, and we will show you something which will interest every cement user.

**The Superior Portland Cement Co.**

General Offices and Sales Department:  
CHARLESTON, W. VA.

WORKS:

SUPERIOR, Lawrence Co., Ohio  
on D. T. & I., C. & O., and N. & W. Railways

Many customers would be added to the long list, if all users of Cement were familiar with **MAUMEE WATERPROOFING COMPOUND**, it's essential where good work is demanded, and the economical way of making water-tight work.

**The Maumee Chemical Co.**  
403 St. Clair Building      TOLEDO, OHIO

### PERFECTION IN BLOCK MAKING

If you wish to attain this you should combine these three important features:

### Wet Process Face Down Damp Curing

The PETTYJOHN INVINCIBLE Machine does this, and is the only machine that does. Tandem Invincible makes two blocks at once. Price \$65.00 and up. Single Invincibles, \$35.00 and up. With our Triple Tier Racking System green blocks can be stacked three high direct from machine with inexpensive home-made rigging. Plans and blue prints free to customers. It economizes space, reduces off-bearing distance and above all insures slow, even, damp and perfect curing and bleaching.

Write for our latest edition of "Stone Making," a book of valuable data, just off the press—FREE

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614 North Sixth Street      Terre Haute, Indiana



# DEALERS AND CEMENT USERS



are the people that every Cement Manufacturer must know and have the confidence of. They are the people who must be satisfied with the results obtained by the use of a first-class Portland Cement.

A dealer handling Whitehall Portland Cement always knows the price we charge for our product at the mill, through our monthly quotations. He adds a legitimate profit and the consumer is well satisfied with the results secured by the use of an absolutely uniform product.

During the year of 1909, the Whitehall Portland Cement Company will continue its well defined policy of marketing its product through the dealer.

## The Whitehall Portland Cement Company

1719 Land Title Building, PHILADELPHIA

### WHY IS IT?

Why is Wheeling Wall Plaster the best obtainable plaster for use in residences?

Why is Wheeling Wall Plaster the best obtainable plaster for use in public buildings?

Why is Wheeling Wall Plaster the best obtainable plaster for use in all buildings?



### BECAUSE:

It's moisture-proof; won't crack or fall. It's lasting and indestructible.

It's sound-proof and fire-proof. Sanitary; durable; has great strength.

It's sanitary; dependable. Write for our booklet, "Better Walls"—it tells.

MFD. ONLY BY

**WHEELING WALL PLASTER CO.**

WHEELING, W. VA.

Tell 'em you saw it in ROCK PRODUCTS.

# CONCRETE ENGINEERING

GREAT SUCCESS ASSURED.

Second Annual Cement Show Will be Held at the Coliseum at Chicago February 18 to 24.

The second annual cement show, under the management of the Cement Products Exhibition Company, occurs February 18 to 24 at the big Coliseum, Chicago. The first exhibition was held December 17 to 21, 1907, and its success was simply phenomenal, 25,000 being the average daily attendance. Concrete block makers from Mexico, contractors from Spain, manufacturers from Germany and visitors and investors from all parts of the world were in attendance. Up to that time never had so many exhibits been shown at one time and contracts were made and business closed amounting to \$3,000,000 at the show. A good record for a beginning.

The present exhibition will surpass the one previously given in every respect. The number of exhibitions will almost be doubled, covering a much greater variety, and the interest that has been aroused is now at a white heat. Literature has been scattered broadcast all over the world and the attendance is expected to be simply tremendous.

The railroads have reduced the rate to a fare and one-half from all points in Illinois, Indiana, Ohio, Michigan, western Pennsylvania, western New York and southern Ontario, also from points in northern Illinois, Iowa, Wisconsin, Minnesota northern peninsula of Michigan, Kansas, Missouri, Nebraska, North and South Dakota, Wyoming, New Mexico, Arizona, Montana and Colorado, as well as from points covered by the Eastern Canadian Passenger Association.

Remember in purchasing tickets to Chicago, full fare must be paid going and do not fail to ask the agent for a certificate of purchase, stating that you are taking advantage of the special fare for the merchants' meeting of the Chicago Association of Commerce. Going tickets, with these certificates, may be purchased in the Central Passenger Association territory from February 15 to 20; in the Western Passenger Association territory from February 13 to 20. Immediately upon arriving at Chicago present the certificate of purchase at the Bureau of Information at the Cement Show, where it will be validated. A fee of 25 cents will be charged by the agent of the passenger association who validates your ticket. This certificate will then be honored for the purchase of



E. M. HAGAR, PRESIDENT CEMENT PRODUCTS EXHIBITION COMPANY.

return tickets at one-half fare up to February 27. These conditions are imperative and should be borne in mind.

The cement interests have never attempted such an exhibition as this one promises to be, nor was it considered possible that such a display could be given. Every material and commodity related directly or even indirectly to the cement industry will be embraced in the various classes of exhibits. This show will not only be instructive but educational as well. It presents the opportunity of a lifetime. To fail to take advantage of the many opportunities that will present themselves to builders, contractors and manufacturers of almost every description is to miss the one chance that may ever be offered to you. No matter how far you may be from Chicago—come; no matter how near—come; do not put off the coming. Come to the opening and you will remain till the lights are turned out on the last night.

The opening night will possess many special features and attractions. The Chicago Association of Commerce will attend en masse. The mayor and the city council, as a body, will be present. All civic and manufacturing associations will be there. Society and commerce will co-mingle and assist in the grand success of the occasion. The music will deserve special commendation. The entire Seventh Regiment Band, twenty-five strong, has been engaged for the week and the duleet strains for which it has become famous will be discoursed almost continuously. The musical program is arranged to suit all tastes and a treat is in store for all true lovers of purest harmony. The show will be complete from the start. Do not think for a moment that there will be anything crude or unfinished on the opening night. Every reservation of space was practically taken long ago and most of the exhibits will be in place and decorated days ahead of the opening. Hundreds of displays have already been arranged and a feast is assured for the first nighters. A practical exposition of all the qualities of concrete and the most modern construction material will be given. Nothing will be omitted, every branch will be presented. The daily attendance is estimated at 50,000, and undoubtedly expectations will be fulfilled. The management are jubilant and are to be congratulated on the assured success of this stupendous enterprise.

## FIFTH ANNUAL CONVENTION

Of the Iowa Cement Users to Be Held at Des Moines in February.

The Fifth Annual Convention of the Iowa Association of Cement Users will be held at Des Moines, February 2, 3 and 4, 1909.

The fact need not be urged that Des Moines is the best convention city in Iowa. It is centrally located and easily accessible from all directions by steam railway and interurban lines. The Commercial Club of the city extend their usual and well known hospitality and are making elaborate plans for the pleasure and substantial entertainment of all members of the association and visitors. The hotel facilities are ample and in point of service and elegance unsurpassed.

There are many things of interest to cement people in and about the capital city in the way of concrete structures, handsome buildings, the new Locust Street



J. U. C. McDANIEL, SECRETARY CEMENT PRODUCTS EXHIBITION COMPANY.

bridge, and the mammoth new cement manufacturing plant near Valley Junction.

The meetings of the convention and headquarters for registration will be in the Savery Hotel. There are a number of other first class hotels in the city where accommodations may be obtained at rates to suit any and every possible requirement, all of which are located within a few blocks of the Union Railway and Interurban stations.

The secretary's office and information bureau in the Savery Hotel will be open for enrollment of members Tuesday morning, February 2. The first session will convene Tuesday afternoon, followed by meetings in the evening, Wednesday morning and afternoon, and Thursday forenoon. The afternoon of the last day of the convention will be devoted to a trip about the city and to the new Portland cement mill, while on Wednesday evening entertainment will be provided by the Commercial Club.

The meetings will be held in the large assembly hall in the Savery Hotel. The best talent obtainable will take part in the program, and many of the subjects presented will be illustrated by means of the stereopticon.

The following excellent series of papers and addresses has been arranged for to date:

"Cement Silo Construction," M. L. King, Ames.  
"Relation of Portland Cement to Iowa's Drainage Development," A. O. Anderson, Lake City.

"Cement Dwelling Houses," C. B. Roman, Camanche.

"Concrete and Concrete Products for Use on the Farm," K. A. Pullen, Onawa.

"Concrete Bridge Specifications," T. H. MacDonald, Ames.

"Steam Curing of Cement Products," A. B. Elliott, Turin.

"Concrete Fence Posts," J. F. McElroy, Cedar Rapids.

"The Cement Tile Question," A. Marston, Ames.

"The Locust Street Concrete Bridge," J. W. Burrows, Des Moines.

"Transportation Problems," G. A. Wrightman, Iowa State Manufacturers' Association.

"Concrete in Bridge Construction," J. A. Mortland, Montezuma.

"Concrete Failures," F. M. Okey, Ames.

"Manufacture of Portland Cement," J. C. Burch, Des Moines.

"The Training of the Inspector at the Contractor's Expense," Jas. Forrest, Des Moines.

The demand for space is proving beyond expectations, and the indications are that all will be taken before convention time. Applications should therefore be sent in promptly.

Exhibits may be addressed in shipping in care of Exhibition Hall, Cruzan Building, Des Moines. Blank applications for space may be obtained from the Secretary, Ira A. Williams, Iowa State College, Ames, Iowa, to whom remittances and requests should be addressed.

The officers of the association are: President, George H. Carlton, Osceola; first vice-president, J. L. Budd, Des Moines; second vice-president, W. J. McCracken, Paulina; treasurer, George R. Ross, Grinnell; secretary, Ira A. Williams, Ames.



B. F. AFFLECK, CHAIRMAN CEMENT PRODUCTS EXHIBITION COMPANY.

## GRAIN BINS OF CONCRETE.

(Continued from page 3.)

in Childs Street. Here the elevator, built by James Stewart & Co., contractors, of Chicago, contains forty-eight concrete bins with a capacity of 2,500,000 bushels. This job was finished in February, 1907. The bins are 90' high, have an inside diameter of 25' and the walls are 8" thick. The cost of this elevator with its forty-eight bins of concrete was approximately half a million. Besides building the elevator complete, Stewart & Co. built the concrete foundations and the first floor, which was also of concrete, for all the buildings of the American Malting Company's plant. On this job upwards of 20,000 barrels of Giant Portland Cement, "Old Reliable," were used.

Directly adjoining the American Malting Company's plant in Childs street, James Stewart & Co., of Chicago, have also finished a million dollar plant for the Francis Perot Sons' Malting Company, erecting nine concrete bins of the same dimensions as those of the American Malting Company, and giving a capacity of 400,000 bushels. This job was finished in February, 1908, and included not only the elevator and bins, but all the buildings of the entire plant. On this job 10,000 barrels of Lehigh cement were used.

In January, 1908, the McDonald Engineering Company, of Chicago, finished an annex, containing a dozen big concrete storage bins, to the head house and elevator of the Husted Milling Company, in Prenatt Street, near Smith.

In 1907 the Steel Storage and Elevator Construction Company, of Buffalo, under the technical direction of Engineer H. R. Wait, built an elevator, containing ten concrete bins with a capacity of 110,000 bushels for the Riverside Malting Company on Niagara Street near Hertel Avenue, on the Erie Canal. On this job 2,500 barrels of cement were used, much of it Penn-Allen brand and the balance Lehigh.

Right now James Stewart & Company, of Chicago, is building a big group of concrete storage bins, 20'x90', for the Washburn-Crosby Company, to be used in connection with their flour milling plant. The contract also calls for the construction of a brick mill and cleaning house with concrete foundations. These additional bins and buildings will practically double the present 6,500 barrels a day capacity of the Washburn-Crosby mill at Michigan and Ganson streets, and make it one of the largest flour mills in the country.

The eight Washburn-Crosby bins under construction will have a capacity of 200,000 bushels, and the company contemplates the erection of twelve more similar sized bins. The Perot plant will also begin very soon an increase of capacity, and on this job Stewart & Company left the work in such a shape so that eighteen more concrete bins could be readily added.

On all the concrete bin jobs in this city the inter-spaces between the bins are also used for the storage of grain.

On the Washburn-Crosby job Stewart & Company



THE WATER FRONT OF THE AMERICAN MALTING COMPANY AND PEROT &amp; SONS, BUFFALO, N. Y.

are at present at work on the foundations for the bins. They are going down fifty feet with piles, and over this footing a concrete slab 45'x85' and 2' 6" thick will be laid. Then there will be a story of concrete carried on columns which will give ten feet of head-room under the bins for the hoppers and belt

though in the cases of the American and Perot jobs a concrete foundation was sent down to bed rock.

The process of erecting the bins by the James Stewart & Company is an invention of that concern. The invention is composed of hollow jacks and steel yokes worked by means of a system of jacking rods, which being placed in the concrete facilitate the jacking of the forms from day to day. This process works continuously and allows three feet of concrete to be placed each nine-hour day.

The vertical reinforcement was for the most part round steel rods in 16' lengths. The horizontal reinforcement consisted of bands of steel about 30' in length, which were placed at intervals of a foot vertically throughout the height of the bins and were circled to the radius of the walls. There are also contact anchors tying the tanks to one another.

On all their Buffalo jobs Stewart & Company have used an aggregate of what is known as Lake Erie gravel, which nature provides already mixed with sufficient sand to fill the voids in the concrete mass. On the Washburn-Crosby job Lehigh cement is being used. The gravel is furnished by the Empire Limestone Company, of Buffalo.

At the elevator of the Riverside Malting Company, built by the Steel Storage and Elevator Construction Company, of Buffalo, the ten bins are 16'x60' and the walls are 6" thick. In this elevator the interspace bins are square.

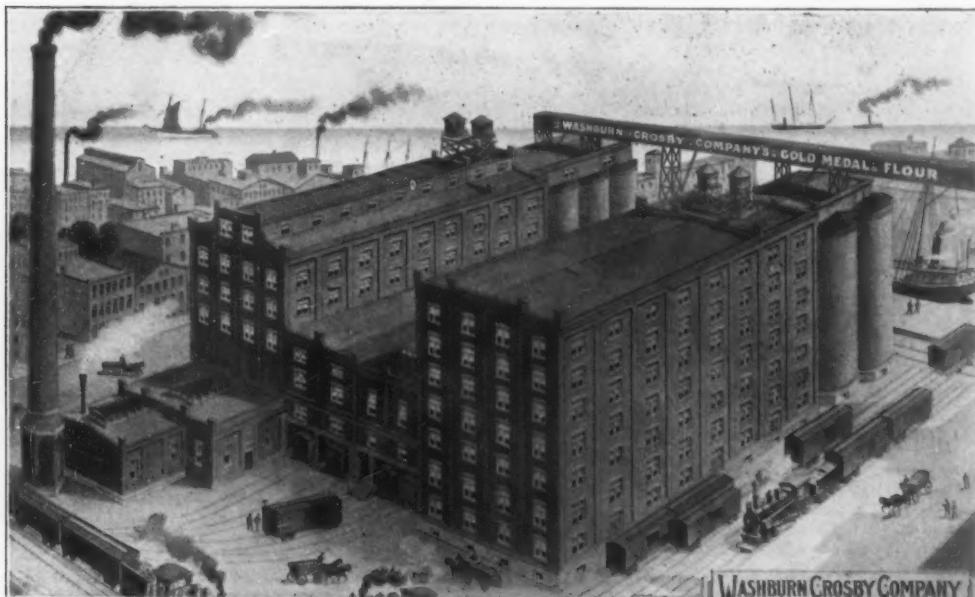
The bins are erected on a frame of concrete girders in octagon form, supported by eight concrete columns under each bin. These bins have concrete hoppers which are suspended on a framework of structural steel. The interior of this kind of hopper is always dry.

Engineer Wait on the Riverside job used a 1-2-5 mixture in his concrete foundations, and in the bins used a little richer mixture of 1-2-4. For his reinforcement on the bins he used twisted  $\frac{1}{2}$ " square bars for the verticals at intervals of 3' 6", and on the horizontal used flat bars every foot, graduating them in thickness from the bottom to the top, all of which are of high carbon steel.

RIVERSIDE MALTING COMPANY'S ELEVATOR, BUFFALO, N. Y.

conveyors. This story will be enclosed with a concrete wall and will be roofed over with another slab of concrete covering the entire area on which the bins will rest, supported from below by concrete walls.

This is the foundation plan which James Stewart & Company has followed on all its Buffalo jobs,



STORAGE BINS AND FLOUR MILLS OF WASHBURN-CROSBY COMPANY, AT BUFFALO, NOW UNDER CONSTRUCTION.

The Drummond Concrete Sepulchre Company has been incorporated at Philadelphia, with a capital stock of \$100,000. The incorporators are W. J. Drummond, J. F. Simpson, J. J. Simpson, A. J. Golden, J. B. Mickle, Philadelphia.

Edwin Edelman and F. Hirsch, Winslow, Neb., will equip a concrete block factory with the latest and best machinery. Operations have commenced on the erection of a building which they will use for the purpose. They have also secured a site on the Burlington right-of-way, on which they will erect sand sheds and in which they will store sand, which they will have shipped in from outside points.

William Scharfenburg is planning to operate his concrete block factory most of the winter at Traer, Ia. Ludwig B. Larsen, David Goodell and J. Larsen have filed articles of incorporation of the Oregon Concrete Block and Machine Company, with a capital stock of \$25,000, at Portland, Ore.

The Elyria Concrete Company has been incorporated at Elyria, Ohio, with a capital stock of \$25,000. The incorporators are C. W. Whales, E. C. Griswold, H. W. Ingersoll, F. A. Stetson, G. R. Allen.

The Concrete Products Company has been incorporated in New York City for concrete construction work. The capital stock is \$1,000,000. The incorporators are R. F. Tucker, G. H. Guy, New York; K. L. Martin, Brooklyn; P. A. Temes, Woodmere, L. I.; M. Watson, East Orange.

The Fostoria Concrete Products Company has been incorporated at Fostoria, Ohio, with a capital stock of \$5,000. The incorporators are John S. Amy N., S. A. and Oscar V. Maurer and Josiah Noble.

## NEBRASKA.

## Fourth Annual Convention of Cement Users Will be Held at Lincoln Early in February.

The executive board of the Nebraska Cement Users are endeavoring to leave no stone unturned that will make the Fourth Annual Convention, to be held at Lincoln, Neb., February 10, 11, 12 and 13 the largest and most successful convention ever held by that active, persevering body.

The exhibition will be held in the Auditorium at Thirteenth and M Streets, and the meeting of the association will be held in the convention hall of the Lindell Hotel on the opposite corner of the same streets. The auditorium is a spacious, well lighted room on a level with the street, making it easy of access, and will be appreciated by both exhibitor and visitor.

The convention hall is a very desirable place, away from the noise and din of the city and conveniently near the exhibition.

The railroad facilities are adequate, making the city one to be desired for convention purposes—a fact appreciated by exhibitors, visitors and members alike.

The association is in a great measure indebted to the Commercial Club, of Lincoln, Neb., for their liberality and courtesy in doing their part to make this convention a success.

The programme will be of special note and worth and will be a great schooling for all who want to know more about concrete. Earnest, energetic speakers on new themes and improvements on older ideas will be found on the list. Lively discussions on important and present day questions will find place and the question box will not be omitted.

It is the purpose of the association to make the convention and exhibit feature this season surpass any previous mark of excellence or usefulness.

To those that handle cements, concrete machinery or appliances, or anything connected with the industry, no better opportunity can be offered to meet the concrete man of brains, brawn, energy and stability than at this convention. These are the kind of men who will be there.

There will be space set aside for free exhibits that deserve special mention. These exhibits will consist of sands, home-made conveniences for making, laying, leveling or working concrete, and curios of the home or yard and such articles that will excite the ambitious concrete man to a larger field of usefulness. No patented article or anything for sale or advertising purposes, aside from the real intent of the association, will be given this space, and all are requested to contribute to this exhibit.

A prize is offered for the photograph of the best job executed in concrete in the state of Nebraska and shown by the man who erected same. These photos will also be among the free exhibits and in the hands of a committee appointed for that purpose.

Application blanks and floor space of the exhibit hall will be sent to any address upon request.

No pains will be spared to make the exhibits worth everyone's time to come and see them. A hearty invitation is extended not only to the concrete user and exhibitor, but to architects, prospective builders of homes, ranches, factories or business concerns, to those connected with public works or enterprises, county commissioners or whoever comes in contact with the great world of concrete, or who wants to be informed of its worth.

All inquiries will be promptly answered by the secretary, I. E. Watenpaugh, at his home at Western, Neb., and at Lincoln, after February 1, in care of the Lindell Hotel, Thirteenth and M Streets, until after the convention.

The president, L. E. Porter, of York, Neb., may be addressed at his home or at the headquarters of the association at the Lindell Hotel, Lincoln, during the week of the convention.

Mr. Porter is a fine presiding officer and an indefatigable worker and no little of the success of the association is due him.

The excellent service and reasonable prices given by the hotels of Lincoln will be greatly appreciated by those who attend the sessions of the convention.

## Concrete in Nashville.

Within the past two years over \$2,000,000 has been invested in concrete and reinforced concrete building in Nashville, and while a few years back not much importance was attached to this manner of construction, it has gained rapidly, and the manner in which the latter-day concrete blocks and reinforced concrete structures withstood the elements has been responsible for the rapid strides that have been made in this class of work in Nashville.

There are three concerns in Nashville engaged in concrete construction work on buildings, bridges, etc., while four companies do an extensive business in street and paving work. The firms engaged in the



L. E. PORTER, YORK, NEB.,  
President Nebraska Cement Users' Association.

concrete business are the Newsom Crushed Stone & Quarry Company, the Nashville Concrete Company and the Nashville Construction Company (formerly the Concrete Construction Company). The following firms do an extensive business in paving and street work: Nashville Roofing and Paving Company (Southern Bitulithic Company), W. M. Leftwich & Company, Uncle Hiram Roofing Company and W. T. Hardison.

Some of the handsomest and most substantial business houses and residences in the city are composed in part or wholly of concrete.

## Concrete as Fire Resistant.

A serious fire recently visited Winthrop, S. D., and within an hour two hotels and seven houses were completely destroyed. The progress of the fire in one direction was completely stopped by a concrete house which was just being finished, and which was not injured at all. The fire was so intense where this building stands that the granite curbing across the street was split and crumbled as if broken with sledge hammers. In view of the strength and fire-resisting properties of concrete, the new town of Concrete, Pembina County, North Dakota, proposes to stand by its name, and the town site people refuse to sell lots except on the condition that concrete will be used in the construction of the buildings to be erected thereon.



I. E. WATENPAUGH,  
Secretary of the Nebraska Cement Users' Association.

## Oklahoma Cement Users to Meet.

OKLAHOMA CITY, OKLA., Jan. 18.—A call has been sent out for a meeting for users of cement to be called in Oklahoma City on February 9, 10 and 11.

The call is sent out by D. C. Patterson, who is the secretary of the Oklahoma Retail Hardware Dealers' Association, and he is getting the co-operation of the Chamber of Commerce and the Builders' Club, of this city.

The meeting has been called for the same dates as the hardware dealers' meeting, and there will be an exhibit in connection with the convention, which will consist of concrete mixers, concrete block machines and cement brick machines. An effort is being made to have the exhibit of the Portland cement manufacturers brought down from Kansas City. This exhibit is for the lumbermen's meeting there and will consist of a complete display of concrete products.

The machinery hall at the State Fair grounds has been engaged and this will be used for the exhibits as well as the convention, for arrangements are made for a meeting place. The fair grounds are about ten minutes' ride from the city.

For the educational part of the meeting there will be a program prepared and discussions will be held on the various phases of the concrete business from all standpoints. Among the subjects to be taken up by men well versed in their lines will be that of manufacturing Portland cement and its uses; best mixtures to be used in concrete work; waterproofing; colors; reinforcement and the merits of concrete as a building material.

The development of concrete in this state has just commenced and those who are engaged in the business are keen for information on the subject. With the materials close at hand there is a greater demand for concrete construction than any other material in the state.

Like all new sections of country which are growing, there are those who think they understand the uses of concrete, and it is to protect those who want the best work done that this meeting has been called.

A question box has been provided and queries will be answered.

A number of letters have already been received from people who signify their intention of being present. One city writes that they will be represented by a delegation of the citizens who wish to investigate the merits of concrete.

If it is thought advisable other states in the Southwest will be invited to affiliate so that a large association can be formed.

There can be no doubt as to the success of an association in this section if properly conducted and by men who will work to have it no other way.

Everyone interested in concrete in this section is invited to participate in this first meeting.

## Mammoth Coal Pocket of Concrete.

The largest reinforced concrete coal pocket in the world has just been finished for the Lehigh & Wilkes-Barre Coal Company in Charlestown.

The structure, which was designed and built under the direction of George P. Carver, has attracted great attention among engineers and others interested in building construction.

This coal pocket is 182 feet long, 92 feet wide, 24 feet deep, and is capable of holding 10,000 tons of coal.

The site for the structure was simply filled ground, so in preparing for the new building it was necessary to sink piles into the earth. Seven hundred and fifty concrete piles 16 inches in diameter were driven by the use of two 50-foot drivers, the work being done by the New England Foundation Company, of Boston. These piles were composed of a mixture of one part Giant Portland cement, two and one-half parts sand and five parts of one-inch trap rock.

In placing these piles the driver is brought to position over the pile location and a hollow steel form 16 inches in diameter, fitted at the bottom with a blunt detachable cast-iron point, is driven until the required depth is obtained. Then enough of the concrete mixture for the length of the pile is poured into the form, after which the form is withdrawn, allowing the concrete to settle into the hole, thus coming into intimate contact with the surrounding ground, cementing itself thereto and forming a rugged monolithic column 16 inches in diameter from top to bottom.

The heads of these piles protruded six inches into the reinforced concrete footings, which were 2 feet 6 inches thick, and on which were constructed concrete column bases 4 feet by 4 feet 10 inches.

The concrete used in the building proper was a mixture of one part Lehigh Portland cement, two parts sand and four parts crushed trap rock.

The reinforcement consisted of steel rods placed at intervals in the wall as it was being built up in

## ROCK PRODUCTS

the wooden forms. These forms were set up in sections to a height of about six feet. Then the reinforcing steel rods were placed in position and well secured, the forms well braced, and the mixture of concrete poured in until the top of the forms was reached.

The pocket is divided into twelve separate compartments, one division wall running the entire length through the center of the main pocket, and partition walls running every 30 feet apart transversely across the pocket, making the compartments 30 feet by 40 feet in size. These divisions walls are two feet in width at the bottom and one foot at the top and are designed as cantilevers, the coal, which passes through a screen into the wagon, giving a load of clean coal in the shortest possible time.

Engineer Carver has by his work on this building added much to his fame as an expert in concrete construction. He was one of the division engineers who had charge of the work of building the Florida East Coast railway, which ran for miles on concrete buttresses and foundations through the Florida Keys, and which was considered a remarkable piece of railroad engineering.

Another work that brought him into prominence was the building of the United Shoe Machinery Company's plant in Beverly, which was constructed entirely of reinforced concrete.

Mr. Carver believes that the age of concrete is only just beginning, and that in a short time concrete in some form will be the principal material in all important buildings.

## NORTHWESTERN CEMENT PRODUCTS

Will hold their Big Annual Show the first Week of March.

The Northwestern Cement Products Association will hold their Fifth Annual Convention at the Armory, in Minneapolis, March 2 to 4 inclusive. Great interest is being manifested in this show and the indications are that every space in the exhibition hall will be taken long before the show opens. President Martin P. Roche is busy arranging a program, which will be unusually interesting and instructive.

The Interstate Cement Tile Manufacturers' Association have decided to hold their convention in Minneapolis on March 2 and 3 in conjunction with the Northwestern Cement Products Association.

Incorporation papers have been filed with the Secretary of the State of Minnesota, with Martin T. Roche and D. L. Bell, of St. Paul, and C. A. P. Turner, O. U. Mirale and J. C. Van Doorn, of Minneapolis, as incorporators. The incorporation is for the mutual welfare, protection and pleasure of the members and for the promotion of the industry.

Descriptive letters and diagrams of the floor plan of the Armory in Minneapolis have been sent to prospective exhibitors, and before these letters were ready to send out, J. C. Van Doorn, the Secretary in Minneapolis, reported that more than fifty applications were received looking for space and information.

Members are paying up hurriedly to get the lower numbers. The badge to be worn during the convention days will have the number corresponding to the one on the card.

The prosperity of the Northwest is well understood by the people of the entire country, and not in any other section do people realize more the great importance of Portland cement as a material that can be so safely and economically used in every kind of construction.

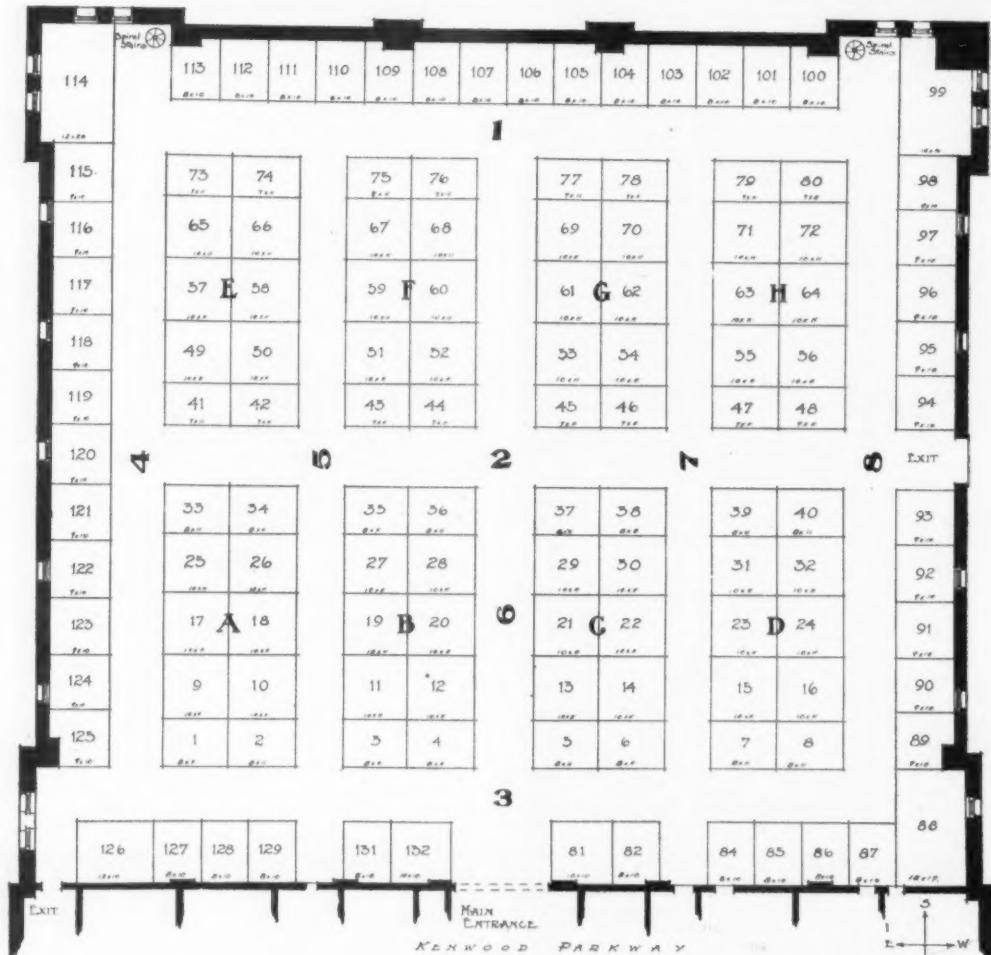
A great deal of pleasant rivalry and interest has been shown in the contest for having the privilege of naming the eight streets that cross and recross the exhibition floor of the Armory. The honor of naming the streets will go to the highest bidder. Mail sealed bids to the secretary. The eight highest bids win. If two bids for the same amount are received, that of the earliest date will be considered the winner.

General admission to the public will be 25 cents. Admission tickets to the number of four for each dollar paid for space will be issued to the exhibitor at the secretary's office on payment of full rental of space.

The proposed concrete building to be given to the Minnesota Agricultural Society is still being considered and the Committee on Ways and Means has this business in charge.

The climate of Minnesota is unequalled and during the winter no one should miss a visit to the metropolis of the North Star State. "I am going to the convention at Minneapolis in March" is heard from all parts of the country.

Honorary memberships in the Northwestern Cement Products Association have been voted and sent to Edward M. Hagur, of Chicago, president of the Cement Products Exhibition Company; Richard L. Humphrey, of Philadelphia, president of the National Association of Cement Users, and George H. Carlton,



THE MINNEAPOLIS ARMORY, WHERE THE NORTHWESTERN CEMENT PRODUCTS SHOW WILL BE HELD. CEMENT BRIDGE OVER WOOD RIVER, HALL COUNTY, NEB.

of Oskaloosa, Iowa, president of the Iowa Cement Products Association.

During the week of March 1 to 6, inclusive, the street cars of Minneapolis and St. Paul will carry several different kinds of display signs, one of which we print a reduced facsimile of, calling attention to the citizens of the Twin Cities that a big cement show is in progress at the Armory and inviting them all to attend.

Particular efforts are being used by the officers of the Northwestern Cement Products Association to interest and attract the workingmen, the jobbers, and the manufacturers of the cities.

It is entirely practical and feasible for every workingman to build a concrete home of his own, if he can procure a cheap lot that contains sand suitable for concrete. The cost of cement is less than 10 per cent of the cost of the work, the rest is labor. A workingman by working evenings can easily erect a six-room cottage in a few weeks, and have a castle of his own wherein to protect his wife and children, and defy the sheriff with an eviction writ. It is up to the cement association to show them how.

## Rules and Regulations of the Show.

1. No space shall be sub-let without written consent of the Secretary.

2. Aisle space shall be under control of the Secretary and shall not be used for exhibits.

3. Extra lights for decorating and electric power will be furnished at a reasonable charge. The building is equipped with alternating current 110 or 220 S. F.

4. All goods will be at owner's risk, and any damage to building by carelessness of exhibitors or their employees must be paid for by exhibitor causing same.

5. Exhibits will be open from 9:30 a. m. to 10:30 p. m. daily. Exhibits must be in place before 9 a. m. March 2, and remain in place until 10:30 p. m. March 4. All cleaning and moving of exhibits must be done between the hours of 10:30 p. m. and 9 a. m.

6. No nails or screws shall be put in the walls of the building.

7. Prices of space include framework of booth. No signs or framework to exceed nine (9) feet in height.

8. Admission to exhibitors and their employees will be by passes, issued at Secretary's office at the Armory.

9. Advertising matter of all kinds must be approved by the Secretary and shall be distributed only from the exhibitors' booth.

10. No exhibitor shall display any goods not handled by him in the regular course of business.

11. If two or more spaces are taken a discount of 40 per cent will be made on the price of each additional space of same or lower cost.

12. All leases subject to rules and regulations herein given, and such others as the Executive Committee may make for the benefit of the Convention Sessions or the good of the Exhibition.

## Development of Concrete in Oklahoma.

OKLAHOMA CITY, OKLA., Jan. 16.—An enormous amount of money is being expended by Oklahoma cities for public improvements. The cost of the work now being done or about to begin will run far into the millions and still more millions will be required to carry out plans yet in a formulative stage. The residents of the larger cities have apparently been seized with a fever for public improvements and do not hesitate to tax themselves in order to secure them. The constitution and laws of the state have provided a way by which the municipalities may secure the money with which to pay for their improvements and the spirit of the people is doing the rest.

Oklahoma City has recently secured complete sanitary and storm sewer systems. She has forty miles of street pavement and the contract has been let for fourteen miles of additional paving. In the November election the city voted a bond issue of \$325,000, of which \$300,000 is to be used in the construction of a high school building and \$25,000 in building two hospitals for the treatment of contagious diseases.

In Guthrie the people recently voted for a \$250,000 bond issue. Of this amount \$150,000 has been used in building a convention hall, \$30,000 is to be used for street improvements about the convention hall and other property, \$15,000 for storm sewers, \$10,000 for a main sanitary sewer and \$45,000 for two viaducts. In addition to this, the city is preparing to advertise for bids for the construction of nine miles of street paving in the residence district.

Muskogee contracts have been let for the construction of pavements to cost approximately \$1,000,000. Half of this work is nearly completed and the remainder is to be started soon. In addition to this expenditure, which will be met by issuing paving bonds, the city voted in November for a bond issue of \$500,000, of which \$300,000 is to be used in the construction of a storm sewer system which will cover the entire city and be planned to provide for the growth of the town. The remaining \$250,000 is to be used in the improvement of the waterworks system, which is owned by the city.

It is estimated that fourteen cities in the state, exclusive of Oklahoma City, have in course of con-

struction or under contract improvements in the way of paving and sewers which will cost a total of \$4,000,000. Such work is in progress at El Reno, Lawton, Chickasha, Hobart, Shawnee, Guthrie, Tulsa, Muskogee, Sapulpa, McAlester, Ada, Claremore and Bartlesville.

One of the gratifying features of this is the large amount of cement and concrete this will require.

The R. F. Conway Construction Company, of Chicago, has the contract for the paving work here, which in most instances is concrete foundations with asphalt tars.

Besides the public improvements the number of private enterprises are astonishing.

The Majestic office building, at Main and Harvey Streets, is just being finished. This is a seven-story building, 25x140 feet, and is of reinforced concrete construction. The cost of it is about \$125,000. O. Keeffe is the general contractor.

The contract for the Wright Building, at Main and Harvey Streets, has been let to the Gross Construction Company. This is to be a reinforced concrete building of six stories, to cost \$150,000.

Work is to commence on the Empire Building about March 1. This is to be of reinforced concrete, eight stories high, and will cost \$200,000.

The foundations are now being sunk for the Lee-Harkins Hotel. This will be a ten-story reinforced concrete building, 125x160 feet, to cost \$500,000. The Seldon-Breck Construction Company, of St. Louis, Mo., have the general contract.

The Gross Construction Company is now at work on the W. J. Pettee Building. It is to be a five-story structure and will cost \$75,000.

The Worster Construction Company is now at work on the five-story Randall Building. This is of reinforced concrete and will cost \$50,000.

The Daily Oklahoman will build a new home. It is to be a five-story reinforced concrete and will cost \$150,000. The contract has been let to O. Keeffe.

#### Concrete Engineering.

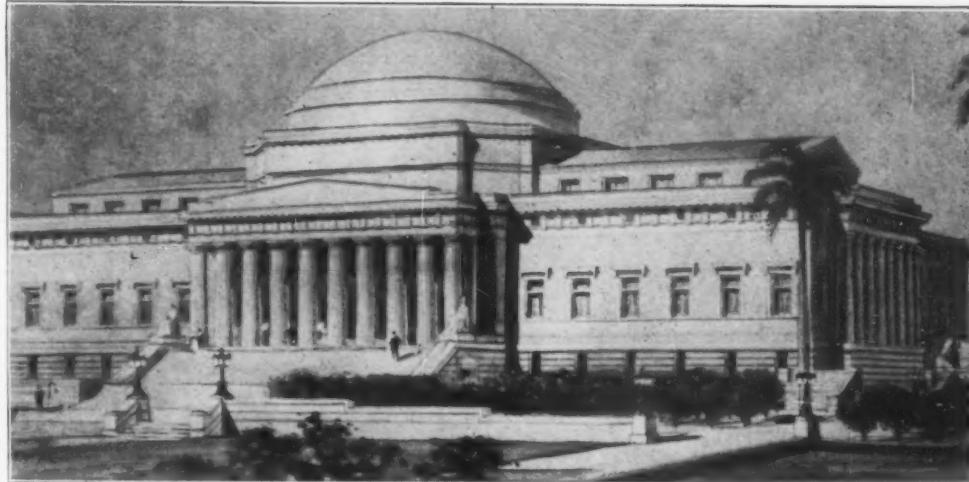
ST. JOSEPH, Mo., Jan. 12.—The United States Government Engineering Department has taken a step forward in its operations by using a concrete pile to replace the old wooden pile.

This is one step farther in the use of concrete and opens a new use for it which in the development of the waterways will create a field of enormous magnitude.

Heretofore wooden piling has been used in the Missouri River near here and other places to protect the land and keep the current of the river in one course. It has been this constant changing of the river bed that makes the river lands such an uncertain proposition and we read in the papers every day of the catastrophes from floods and overflowing rivers. The wooden pile used in river work must be replaced every nine years, for the decay of the wood as well as the injury caused by accidents soon destroys the piling which must be replaced to protect the cities.

The work here finished on December 1, 1908, was under the supervision of Captain Edward H. Schultz, of Kansas City, Mo., one of the Government engineers, and the work was done by the Raymond Concrete Piling Company. Ash Grove cement manufactured by the Ash Grove Lime and Portland Cement Company, of Kansas City, Mo., and the sand and gravel were taken from the bed and bank of the river. The concrete was mixed in aggregate of 1:3:5.

There were thirty-six piles in all and they were cast on the barge. Wooden moulds were formed and the piles were 55 feet long, 14 inches square at the top and tapering to an 8-inch base. The piles were rein-



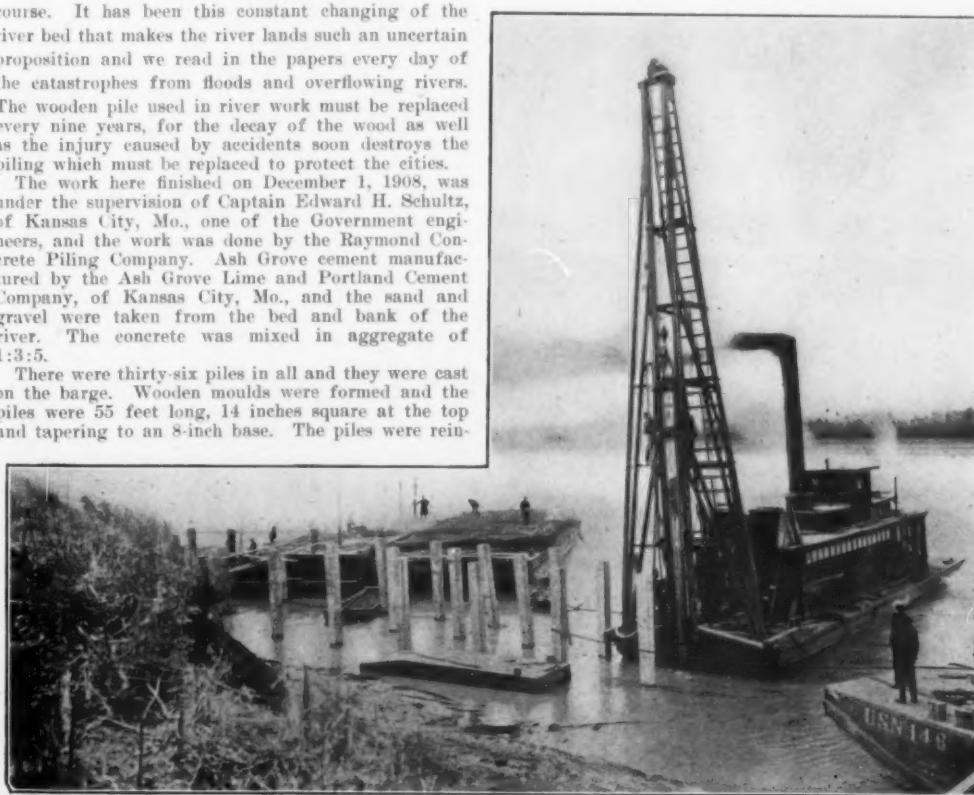
PRIZE DESIGN FOR PORTO RICO'S NEW CAPITOL BUILDING.

forced by four  $7\frac{1}{2}$ -inch square rods which were tied together at intervals of 18 inches with  $\frac{1}{4}$ -inch rods. Each pile weighed 6,000 pounds.

At the end of seven days the piles were driven. The derrick lifted the pile by the top and a water pipe connected with a pump having an intake of 3 inches and a discharge or jet of water  $1\frac{1}{2}$  inches. The tremendous force of the jet made a hole and by raising and lowering the pile it sank into the bottom. It was found after considerable investigation that this was the most practical means of sinking the piling as well as a regular cast pile reinforced and tapering in form. Some manufacturers use a pile driver by covering the pile with a steel jacket and filling it with sawdust to break the jar of the hammer. It has been found, however, that the top of the concrete was shattered from the heavy force and blow struck.

The use of the water jet not only makes the work considerably easier, but reduces the cost of the driving, which is the greatest expense in connection with the work. The first of these piles were cast with an indenture in the end to allow the water jet an outlet, but it was found that the work could be done just as effectively by allowing the water pipe to hang with the pile.

The first cost of concrete pile is about 12 per cent more than the wooden pile, but instead of having at the end of nine years a decayed and practically useless piling, there will be a material which by the action of water becomes stronger, a piece of work defying elements and floods and a permanent protection.



CONCRETE PILES MADE OF ASH GROVE CEMENT IN MISSOURI RIVER.

#### Porto Rico Capitol Design.

We present herewith an illustration of the design for Porto Rico's new capitol building. This building will be constructed of reinforced concrete and will be the first concrete state building erected by the Government. The capitol will be surrounded by terraces leading to a promenade overlooking the ocean to the north, while the front of the edifice will face the south and the harbor. The carretera, or military highway, will form a portion of the garden scheme of approach at the front of the capitol.

A scheme of variegated color will be introduced into the concrete by crushed coral, limestone, cement and other materials. The entire effect will be offset by a bronze metal work at the entrances and window openings and by marble statuary.

#### Successful Contractor of the Northwest.

One of the most successful contractors in the Northwest and West is James Kennedy, of Fargo, N. D., who has been in the contracting business for more than twenty years, having done much heavy work throughout the entire territory west of the Mississippi River, making a specialty of street paving, concrete sewers and waterworks. He has recently formed a company and secured contracts at Salt Lake City, Utah, for about fifty miles of 4-foot wide sidewalk, about one-fifth of which has been put in this fall. The contract amounts to something over \$200,000.

Mr. Kennedy has been interested in politics and is one of the successful politicians from his state. Last year he was elected to the office of Republican central committeeman, and in the fall election was elected to the legislature of North Dakota from Fargo to represent his district.

He has always had the reputation of being a very successful organizer, is one of the men that can always be relied on and is in politics for the pleasure that he derives from it, in being able to help his friends, and that is his general idea of being in the political game so that he can help and boost friends that deserve good treatment.

During the twenty-eight years that he has been in politics there is no man that can say one word against him in any way, as he has always been just and fair in his actions and treatment of all men.

During this time as a contractor he has completed some of the largest jobs of street paving, sewer work and waterworks in the Northwest, having done work in the states of Washington, Montana, North Dakota, South Dakota, Oregon and Utah.

#### Secures Large Contract.

The Enamel Concrete Company, of Des Moines, Ia., recently closed a contract with the Enamel Brick and Concrete Company, of Seattle, Wash., to furnish a complete concrete plant. This will consist of one of the big concrete machines, cars and other equipment, in all making about 100,000 pounds of steel and iron, some six or seven carloads. The cost of such a plant is \$50,000.

The Enamel Concrete Company has contracts for a number of other plants in the Western territory, including one each at Vancouver, B. C., San Francisco, Spokane, Portland, Denver and Kansas City.

#### Reinforced Concrete School Building.

PHILADELPHIA, Pa., Jan. 20.—The first reinforced concrete school building in Philadelphia will be erected at the corner of Fifty-ninth and Race Streets by Ketchum & Sons, who recently secured the contract for \$148,490.



REINFORCED CONCRETE SECTIONS MADE OF BONNER CEMENT.

#### The Canadian Cement and Concrete Show.

The Canadian Cement and Concrete Association will hold its first convention and exhibition in the St. Lawrence Arena, Toronto, March 1 to 6.

The exhibition will include not only products from the different manufacturers of cement, but also from the manufacturers of machinery, appliances and kindred articles. The management proposes to bring from the United States and elsewhere a number of very prominent business and scientific men identified with the cement industry, to address the convention.

Being the first show of its kind ever held in Canada, it will be supported and encouraged, not only by the people interested in the business, but by the general public as well. Arrangements are being made with the railroads to give a reduced rate to Toronto that week, and invitations will be sent to the different municipal officials throughout Canada, inviting their attendance. The building will be available for installation of exhibits at least four days before the opening of the show. For particulars write R. M. Jaffray, manager, 1 Wellington West, Toronto, Canada.

#### Concrete Water Intake.

A concrete water intake of unique design has recently been completed near San Bernardino, Cal., for the Arrowhead Reservoir and Power Company. The intake or tower, which is built entirely of reinforced concrete, is 185 feet in height, thirteen feet in diameter and stands in an artificial lake in a mountainous country. The wall of the tower to a height of 125 feet is twenty-four inches thick and from that point up fifteen inches thick. Reinforcements consist of three-quarter-inch rods, running circumferentially and vertically.

#### New Concrete Company.

WINSTON-SALEM, N. C., Jan. 6.—C. M. Thomas & Company, having withdrawn from the Southern Concrete Company, have placed an order for a large mixer and the new firm will be known as C. M. Thomas & Company. They have made every provision for a large business and their standing in the business world, their honesty and promptness are a guarantee that the new company will be all that its owners can hope for it.



CEMENT BRIDGE OVER WOOD RIVER, HALL COUNTY, NEBRASKA.

#### Can Not Change Date.

We are in receipt of the following from Charles B. Burdick, president of the Illinois Society of Engineers and Surveyors, Chicago, which is a reply to an invitation extended to the society to hold their annual meeting in conjunction with the Chicago Cement Show:

On behalf of the Illinois Society of Engineers and Surveyors, I wish to thank you for your invitation to hold their annual meeting in conjunction with the Cement Show.

We regret that it is impossible, at this late date, to change our arrangements for our meeting, which, by our constitution, must be held in January.

We trust that we shall be able to arrange a joint meeting at some future time.

#### Playground of Concrete.

An immense playground, blasted out of solid rock and covering an area of two and one-half acres, is being constructed by E. H. Harriman on Tower Hill, near Arden, N. Y.

The playground will have a concrete floor, inclosed by a concrete wall four feet in height. In summer the floor will be covered to a depth of several inches with earth. This will be removed in the fall. In the winter the playground will be flooded for a skating rink. On this rink hockey, curling and other winter games will be played, while the tennis and squash courts, croquet grounds, bowling alleys and target ranges will occupy the ground in the summer.

Numerous electric arc lights will illuminate the place at night.

#### Concrete Telegraph Poles.

In continuance of the declared policy of the Pennsylvania Railroad System to provide against timber scarcity, the lines west of Pittsburgh have just completed and placed in experimental service a line of concrete telegraph poles through New Brighton, Pa. Its construction followed a series of elaborate experiments which have been conducted during the past two years.

The poles at New Brighton are of graceful proportions, being about thirty feet long, fourteen inches in diameter at the bottom and six inches at the top. Their general appearance is particularly pleasing on account of the uniformity in size, shape and color.

#### Concrete Construction.

Adam Saal, of Peoria, Ill., is about to erect four concrete blockhouses on South Third Street. They will be of five and six rooms and will be erected for tenants.

#### Concrete Bridge Over Wood River.

We present herewith an illustration of a concrete bridge over Wood River, Hall County, Nebraska. This bridge was built by Louis Schmidt, manufacturer of brick and cement building blocks, Grand Island, Neb. It has a ten-foot roadway and is seventy feet wide, with two thirty-foot arches. In the construction of this bridge 750 sacks of Bonner Portland cement were used.

#### RADICAL DEPARTURE.

#### Latest Improved Peerless Brick Machine Commands the Attention of Cement Workers.

Seldom has there been a greater sensation created at a show than that made by the new improved 1909 model Peerless cement brick machine. The present brick machine is a great improvement over the old style brick machine, for by the new tamping arrangement the efficiency of the machine has been increased threefold. It was the center of attraction at the Cleveland exhibition, where it was shown for the first time.

With one man operating the machine it can readily turn out 12,000 brick per day, although an expert can even turn out more. This is a great achievement and stamps the Peerless as the leading brick machine of the country.

It is needless here to go into details regarding the growth of the cement industry, for wherever cement bricks can be procured at a reasonable figure they are given the preference over the old clay brick, as no one questions their superiority. The arguments in favor of cement brick are numerous. They are harder and stronger, the crushing strength being many times that of ordinary brick. Cement brick require no painting or repairs. They are fireproof and improve with age.

The first Peerless brick machines were put on the market in 1905 and while they cannot compare with the present models, they were as easily the best of the machines on the market at that time as the present machines are ahead of those today.

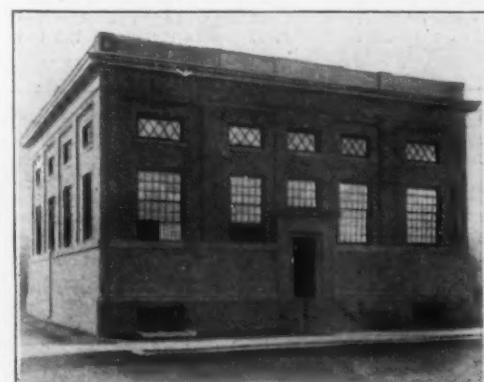
L. V. Thayer, the president of the Peerless Brick Machine Company, of Minneapolis, has made improvements in the machine from time to time, always keeping ahead of the procession, but the 1909 machine is a radical departure from the old-time machine with the hand-tamp process. The present machine is the evolution of the original machine, but the tamping arrangement is the greatest improvement yet made and puts the Peerless in a class by itself when it comes to efficiency and ease of working.

Its advantages over the hand-tamp machine are manifest, as it is not only more rapid, but all of the bricks get exactly the same tamping, the result being ten uniform bricks at each operation, perfect in every detail, with clean, sharp edges and each having the same density. The Peerless brick machine is by far the cheapest and best machine on the market today, as any unexperienced workman can make good bricks on this machine, as it leaves nothing to chance.

A poor workman can make good brick the first time he operates the machine, as it requires practically no skill whatsoever. However, as the workman becomes more proficient in the handling of the machine, its efficiency is thereby increased. A man can make 12,000 brick in ten hours after a little practice, but this is by no means the limit of the machine, for 15,000 have been made in ten hours by an experienced man.

It does not take long to figure how much money can be made with this machine, as cement bricks easily command a higher price than clay bricks, and in localities where clay bricks are scarce the percentage of profit is considerably higher.

Cement bricks have come to stay. They are recognized by architects and contractors as being far superior for many classes of construction to any class of brick offered on the market. With cement selling at a reasonable figure and with clean, sharp sand close at hand, the possibilities are great. From the



LAKE STREET SUB-STATION OF THE TWIN CITY TRACTION COMPANY.

present indications cement will not reach high enough figures to put it out of reach of the average consumer, as the present output of the mills in operation today is ample to take care of the demand.

Buildings erected of cement brick have a solid substantial appearance, are practically fireproof, require no painting and will improve with age instead of deteriorate as is the case with ordinary brick.

By the addition of coloring materials very artistic effects can be secured. By the use of insert plates in the machine fancy ornamental designs can be made. These plates are very inexpensive and do not require any additional labor whatsoever. Many handsome structures have been built of cement bricks and they have given entire satisfaction. We show on this page a half-tone engraving of the Lake street substation of the Twin City Rapid Transit Company in Minneapolis, built of cement brick made on the ground with a Peerless machine. This is only one of many fine buildings in which this kind of brick was used.

#### Cement for Grindstones.

A new method for grinding glass has been discovered by the Onward Manufacturing Company, who have factories at Menasha, Wis., and Berlin, Ont., and are manufacturers of the Onward Sliding Furniture Shoe, which takes the place of the wheel caster. This discovery is a grindstone made from one-half best Portland cement and one-half Silica sand. It must be thoroughly mixed and tamped even. The advantage of this stone is that when properly made there will be no hard and soft spots, and will grind glass without scratching. The cost is about 10 per cent of the common grindstone. It has been used successfully for one year.

#### The Concrete Silo.

There is no more interesting feature of the concrete industry for the consideration of the farmer than that of the silo. Silos can be built of reinforced concrete if they are to be very large, and strong enough for all purposes. Many smaller ones are giving perfect satisfaction made of segment concrete blocks. No other material is so sanitary and calculated to keep foodstuffs in a pure condition as con-



CONCRETE SILO OF J. W. BOARDMAN.

crete, besides the high fire-resisting qualities and substantial weatherproof asset. Our illustrations show two good samples of recent silo work, both located on farms near Jackson, Mich.

John W. Boardman's silo is molded of reinforced concrete, was built in 1902, and has seen six years' service. It measures 16' diameter, 32' high, with wall 8" thick for the first sixteen feet from the ground. The balance is 6" thick. Footings extend 3' 6" into the ground to hard clay. The walls are reinforced laterally with barbed fence wire laid in the concrete at intervals of 18" as the material rose in the forms. The roof of this silo is also of concrete.

W. F. Cowham's silo is built of concrete blocks made on a Monarch block machine. It was built last summer and measures 14' diameter, 35' high.

The blocks for the lower one-third are 10" thick and for the upper two-thirds are 8" thick. All were reinforced every third course with  $\frac{1}{2}$ " round iron imbedded in block in groove made for same.

Both of these jobs are very satisfactory in every way to the owners, and were built by local contractors without any special experience in this line at very economical cost. Peninsular Portland cement was used in both.

#### A Letter of Appreciation.

L. T. Kenny & Son, proprietors of the Hawarden Concrete Stone Company, Hawarden, Ia., writes us as follows:

"In your last issue of ROCK PRODUCTS, on page 45, there is an article on concrete engineering that I would like to send to some prospective buyers. Will you please tell me what it will cost to get it in a sheet form or in a little booklet, so that it could be readily mailed to the public?

"I think that that article is well worth the price of the year's subscription and I hope that you will still continue the good work.

"The first house that I owned was of the ordinary wood construction, and was burned while the mother was milking a cow. A small child left in the house was burned to death at this place, while a pair of twins were at play in a barn. They set fire to same and were burned to death before they could be gotten out, and the mother was a widow.

"Such things are what make concrete buildings of more moment than may at first seem to the casual observer.

"I shall make it a point to call at your headquarters while in Chicago attending the cement show, later."

#### Concrete Station House.

NEW YORK, N. Y., Jan. 20.—Edward Pearce Casey, architect, has filed plans with Building Superintendent Murphy for the station house that Commissioner Bingham has authorized for the new Thirteenth Precinct, to replace the former quarters in the old Attorney Street Station.



CONCRETE BLOCK SILO ON W. F. COWHAM'S FARM, JACKSON, MICH.

#### THE EXPOSITION FEATURE.

The Central Armory was used for the exhibit feature, which proved to be a sterling attraction. Comparing it with past years, it was the most satisfactory showing the cement industry has yet made. The armory is well adapted for a show of this character, as it is amply large. After the first day it was comfortably warm. A few exhibitors could not find room on the main floor and these were located on the balcony.

The decorations were more elaborate than ever before and the prize committee, which attempted to award prizes for artistic and effective appearance of exhibits, had quite a job on their hands.

The committee was composed of Dr. Charles S. Howe, of the Case School of Applied Science, chairman; George B. McMillan, president of the Builders' Exchange, and Charles W. Hopkinson, president of the Chapter of the Institute of Architects. The awards were as follows: First, Ideal Concrete Machinery Company; second, George R. Rackel & Sons; third, American Hydraulic Stone Company; honorable mention, Atlas Portland Cement Company, American Cement Company, Sandusky Portland Cement Company, Ransome Concrete Machinery Company and the Miracle Pressed Stone Company.

To attempt any detailed description of the various exhibits would take up more space than we can allot to the matter, so we will have to content ourselves with merely mentioning most of the exhibits.

Coming into the main doorway, one of the first exhibits to catch the eye was that of the Atlas Portland Cement Company, New York. This occupied a double booth and was one of the most artistically arranged exhibits in the hall as well as one of the most costly. The feature of the exhibition was the Old Atlas himself supporting the world, cast in concrete and resting on a pedestal also made of concrete. This was a perfect reproduction of the famous statue so familiar to everyone and attracted a great deal of attention. Around the booth was a balustrade with newel posts at the corners. This was also of cast concrete made in an original design by Architect Blacknall, of Boston. Emerson & Norris, of Boston, constructed the exhibit. P. Austin Tomes, advertising manager, was in charge of the exhibit. The following well-known Atlas representatives were on hand during the week: C. A. Kimball, sales manager; C. H. Bingham, John L. Cooper, A. Lundy, John G. Evans and Edward D. Boyer.

The Edison Portland Cement Company's exhibit was in good taste. The huge sections of the famous poured concrete house were the feature of the exhibit and were arranged in such a manner that the visitors could examine carefully every detail of this XX century wonder. R. A. Bachman, Thomas A. Edison's superintendent of the Edison Laboratories, of Orange, N. J., explained thoroughly the process of pouring, the use of the molds and the possibilities of the pouring process by gravity. Mr. Bachman took great pains to correct the impression that the house was designed for an individual home, stating that the error was made by an over-zealous reporter, who, after an interview with Mr. Edison, made statements greatly exaggerating what had been said. It was never intended to create the impression that a workman could put up one of these houses in a day and move into it the next. The molds are planned for use in putting up twenty to one hundred or more houses, as the approximate costs of the molds would be from \$25,000 to \$30,000 alone, to say nothing of the cost of the property and the building materials.

The necessity of fine screenings for uniform color and smooth surface was proven by the castings on exhibition. One of the interesting features of the exhibition was a new waterproofing invented by Mr. Edison for concrete surfaces and, in fact, all stone work. It is called Edison's Waterproofing Paint, as it is applied with a brush. The materials are mixed with a volatile oil which penetrates the mass to a considerable depth and evaporates, leaving every pore and void thoroughly filled and sealed and the surface exactly as it was in its original state—the liquid being colorless. It is acid, alkali, rain and sea proof. The large electric sign with an Indian head of poured concrete shown in the center by means of a shadow box made a very attractive addition to the exhibit. Those of the Edison Company in attendance were E. Meyer, manager of sales; J. L. Bernard, manager Boston office; Maurice M. Hunter, manager Pittsburgh office, and one of his salesmen, Charles V. Reel and F. B. Marsh, advertising manager, who installed and had charge of the exhibits. Robert A. Bachman, superintendent of the Edison Laboratories at Orange, N. J., remained all week in charge of the sample testings of the poured concrete house.

## ROCK PRODUCTS

The Universal Portland Cement Company, of Chicago and Pittsburg, had one of the most tastily decorated booths in the exhibit hall. It was built in the shape of a pergola and festooned with artificial flowers and leaves, giving the effect of a charming summer garden. Samples of concrete work, raw and ground cement, and souvenir buttons completed the exhibit. The Universal boys were out in full force, and seldom anyone got by their booth without being tagged with a Universal button. The exhibit was in charge of J. P. Beck, advertising manager, and those in attendance were: B. F. Afleck, manager of sales; B. H. Rader, manager Pittsburg office; J. C. Van Doorn, northwestern manager, Minneapolis; Maurice Metcalf, A. C. Cronkrite, J. H. Hallack, W. S. Wing, T. L. Hughes, M. Kock, C. W. Boynton, L. S. Fuqua, B. S. Smith, J. H. Chubb, D. M. Adams and H. S. Hazen.

The most interesting feature of the Whitehall Portland Cement Company's (Philadelphia) exhibit was the material from which they manufacture their cement. This cement rock was shown in great quantities, and was an interesting sight to a great many of the visitors, who are always curious to know how things are made. They also showed samples of the finished product, photographs of work done with Whitehall Cement. Copies of "Cementology" and other literature were distributed. Howard B. Green, general sales manager, was in charge of the exhibit, ably assisted by popular Harry F. Rauch.

The American Cement Company, of Philadelphia, showed some fine examples of concrete arch work, among them being a reproduction of a Venetian bird fountain, replica of a Grecian panel, the lion and the snake, urns, flower boxes and inlaid mosaic work. The floor of the booth was covered with fancy colored tile made of concrete. All of these specimens were of a highly artistic character, and clearly demonstrated the possibilities of the successful use of cement for ornamental uses. A considerable portion of the exhibit was the work of students of the Alumni Association of the School of Industrial Art of Pennsylvania, at Philadelphia, and proved to be a strong advertisement for the "old reliable" Giant Portland Cement. Charles M. Camm was in charge of the exhibit, assisted by Horace Oliver and J. J. Dempsey.

The Sandusky Portland Cement Company had a very attractively decorated booth, exhibiting Medusa Portland cement, Medusa Waterproof Compound and Medusa White Portland cement. The material was furnished by the Sandusky Portland Cement Company and the workmanship was done by the Cleveland Concrete Block Company. The feature of the exhibit was a concrete tank filled with water on which was floating gracefully a tiny concrete boat. This was an effective illustration of the value of their products. Beautiful white plaques adorned the wall and samples of the product were shown. The exhibit was in charge of R. R. Fish and Henry C. Stimson.

The Lehigh Portland Cement Company exhibit consisted of a display of cement products in which Lehigh Portland was used, as well as many handsome photographs of prominent work. The booth was in charge of W. E. Viets, assisted by Paul A. Jandernia, E. L. Swett, H. M. Scott, H. H. Holland and Harry Angel. The Lehigh boys presented the visitors with a very attractive combination pen and pencil.

The Pennsylvania Portland Cement Company had a large plaque of William Penn made of their cement, and also one of their plant, an illustration of which is shown in another part of this paper. The booth was attractively decorated, and samples of the product were shown, as well as photographs of work. The exhibit was in charge of W. W. Bale and William Kind. Underneath the plaque of William Penn was a sign reading "On duty Bill Penn, Bill Bale and Bill Kind." This was something on the order of a practice that is in vogue in hotels where the clerk on duty is thus introduced to the patrons. On one occasion when the Bills were off duty a wag in the Edison outfit came over and put up a sign reading "Cut out duty and stay on the job." The Pennsylvania boys got even by pasting their stickers all over the Edison buttons. This good-natured rivalry between the various cement companies' representatives was one of the interesting features of the show. By the way, this show marked the entrance of popular Billy Kind into the cement game, he only recently having severed his connection with the U. S. Gypsum Company to accept the position as New England representative for the Pennsylvania. He was the recipient of much congratulation on his entrance into the realms of cement.

The Superior Portland Cement Company, Cincinnati, Ohio, had an attractively decorated booth, in charge of our old friend, Charles Schmutz. The exhibit

consisted of samples of the finished product as well as raw materials and some handsome photographs of important work where the new Superior Portland has been utilized.

The Lawrence Cement Company, of New York, had an exhibit in charge of the Cleveland Macadam Company. The exhibit consisted of concrete blocks and bricks, crushed furnace slag and Dragon Portland cement. W. H. Gifford and F. M. Case were on hand to extend the glad hand.

The Vulcanite Portland Cement Company and the Berkshire Snow White Portland Cement Company, New York, combined their exhibits in a double booth in charge of Albert Moyer, general sales manager, Floyd A. Walter and W. L. Moffitt. This was one of the most attractively arranged exhibits in the hall and showed many artistic effects in art concrete work, such as inlaid surfaces and various other effects. A portion of the work was executed in the well known Berkshire White.

The American Steel and Wire Company, Chicago and Cleveland, exhibited samples of their wire reinforcement, floor slabs and sewer sections of the Merriweather Sewer Reinforcement, and sections of columns, photographs of buildings in which their reinforcement has been used. The exhibit was in charge of H. S. Doyle, assisted by H. T. Pratt and L. Bloomfield, and C. Mitchell, of the Cleveland Builders' Supply Company.

The Simpson Cement Mold Company, Columbus, Ohio, has one of the most instructive exhibits in the

concrete surfaces by the Bay State Brick and Cement Coating, which is manufactured from cement products and carried in a volatile medium which evaporates entirely, leaving the base and integral part of the surface. It is a surfacing proposition that ranks with the best.

George T. Sinks, of the Brown Hoisting Machinery Company, Cleveland, Ohio, showed their Ferro-Inclave reinforcement with many pictures showing practical applications of its use, also the famous locomotive crane and grab bucket for handling sand, gravel and crushed stone is illustrated at work.

The Barrett Manufacturing Company, New York, had an interesting exhibit of their Amatite roofing and waterproofing specialties. C. T. Bilyea was in charge, assisted by M. Judson.

The Svenson-Shuman Machine Company, Pittsburgh, exhibited their well-known Svenson Concrete Mixer in operation. This mixer was one of the hits of the convention, many declaring it one of the best mixers ever placed on the market. John Svenson, the inventor, was in charge of the exhibit, ably assisted by L. C. Riddell.

The Kent Machine Company, Kent, Ohio, had one of the largest exhibits on the floor, occupying four spaces, in charge of F. A. Kershaw, F. A. Merrill, E. N. Barber and A. L. Post. The exhibit consisted of a No. 4 portable continuous mixer with steam equipment, a No. 3 of the same style, a No. 2 stationary, a No. 2 portable equipped for gasoline, a Kent block car and a Kent transfer car. The exhibit clearly showed the immense strides made by the Kent Machine Company since the introduction of their continuous mixer a few years ago. They are now making not only the small mixers, with which they built up their reputation, but also the largest size concrete mixers suitable for contractors requiring immense quantities of concrete. It shows conclusively that the Kent idea must be a good one and its development the result of the fact that it has made good.

The Dietrichs Clamp Company, Little Ferry, N. J., showed sections of walls built of concrete for foundations for solid finish ashlar and for circular silos and chimneys. It is all simple enough with their clamp. Charles D. Dietrichs, the inventor, was in charge, assisted by Joseph Kichler.

The Miracle Pressed Stone Company, Minneapolis, Minn., as usual had one of the largest and most interesting displays on the floor. This well known firm is always in the forefront of the procession. They manufacture almost every character of machinery used in concrete construction as well as waterproofing compound. To attempt to give a detailed description of the exhibit would be rather difficult. Suffice it to say they had their new power tile machine on exhibition, which is one of the latest improved machines for manufacturing this popular commodity. They also showed a continuous mixer in operation and a general line of their popular block and brick machines. O. U. and R. O. Miracle, C. D. Russell, E. V. Haight, F. M. Scott, F. H. Conkling and G. M. Davis were in charge of the exhibit.

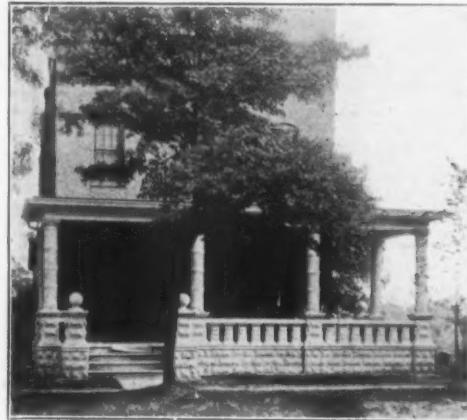
The Jackson System of building concrete houses was explained by F. M. Jackson and H. L. Avery, of Akron, N. Y., at their booth.

The Ohio Ceramic Engineering Company, Cleveland, Ohio, showed a complete line of their concrete mixers, buckets, hoists and cars manufactured by them. A. W. French and Lloyd Brown were on the job.

The United Cement Machinery Company, Columbus, Ohio, were unable to get all of their exhibit in the armory and therefore engaged another building one square from the main show. The exhibit consisted of concrete mixers, power tamps, block machines, molds and cement workers' tools. A great portion of the machinery was shown in operation. In fact, the feature of the exhibit was a whole plant completely equipped for the manufacture of everything in the concrete line. J. W. Sanderson was in charge of the exhibit, assisted by H. L. Green, S. M. Coe and Miss M. C. Hagerty.

The Municipal Engineering & Contracting Company, Chicago, exhibited a No. 6 concrete mixer equipped with a side loading device. T. M. Meek was in charge, assisted by Herman Wesling and C. E. Bathwick.

A new concrete mixer called the Grand was shown by the Hall-Holmes Machinery Company, Jackson, Mich.



SIMPSON CEMENT MOLD WORK IN THREE RIVERS, MICH.

### The Excursion to the Steel Wire Mills.

One of the members who was untiring in his efforts to help out the good spirit that pervaded the whole convention was H. S. Doyle, the popular manager of the reinforced concrete department of the American Steel and Wire Company, whose home office is located in the Commercial National Bank Building in Chicago, and that is where Mr. Doyle is to be found whenever reinforcing steel is the subject to be talked about.

He had decorated practically every delegate with triangles suggestive of his triangle mesh steel fabric by Tuesday night, so he bloomed out with bigger triangles on Wednesday morning that carried an invitation to join an excursion to the great new wire mill his company is just completing a few miles out from the city of Cleveland. The train was scheduled for 2 p. m. on Thursday at the B. and O. depot. There were three coaches and a refreshment car ahead, with an abundance of good things to eat and drink and smoke, and the hundred odd guests were in a frame of mind to fully enjoy the outing. Many of them had never seen the mysteries of heats, rolls, furnaces and coiling apparatus that is indispensable in making such a simple commodity as a wire, and for that reason it was all the more enjoyable.

The hosts representing the American Steel and Wire Company were: H. S. Doyle, manager of the reinforced concrete department; Ernest Boley, assistant general superintendent; J. A. Coakley, H. T. Pratt, R. H. Pratt and Will L. Hayes, all but Mr. Doyle being connected with the Cleveland office.

No more cordial hosts were ever seen. They were all glad to answer questions without the slightest impatience at many repetitions. Mr. Boley is a steel expert, and told with explanations the whole process of making wire from the ore to the ingot and from the ingot to the drawing, rolling, annealing and winding of the wire. Mr. Doyle took up the subject at this point and explained the manipulation of the wonderfully adaptable woven fabric to all the processes of reinforced concrete.

The whole roof construction of the plant is made of continuous slabs of reinforced concrete four inches thick with wire fabricated steel imbedded. The plant is driven by electricity made by conserving the waste gases of a furnace several miles away, and the bar mill division of the plant is not yet completed. So it is the newest and latest to be designed of all the plants of the company. There were concrete floors by the acre, besides a very large number of foundations for heavy machines that were carefully inspected by the visitors.

A. J. Morgan, president, and Julius F. James, treasurer of the Morgan Lithograph Company, whose concern is building a big reinforced concrete factory in Cleveland, were along. Of course they know the only good kind of reinforcement to use, and that's what makes them happy. Mr. Morgan has got a flying machine, as he is an aeroplane crank, but Mr. James contents himself with a very fast auto on terra firma. Both are strong entertainers to help any occasion.

The trip back to Cleveland was all too short, and all the guests of the very pleasant trip gave a rousing vote of thanks to the company and its representatives. Among those present were:

Edward R. Felix, concrete contractor, Passaic, N. J.  
J. E. Payne, Payne Cement Company, contractors, Mansfield, O.  
S. W. Hoffman, concrete contractor, Zanesville, O.  
A. L. Bender, general contractor, Topeka, Ind.  
S. MacMullen, manager Riverton Contracting and Construction Company, Riverton, N. J.  
D. M. Collier, architect, with Hon. P. B. Ware, State architect, Albany, N. Y.  
J. Carl Crook, architect, 648 East Main Street, Lancaster, O.  
D. W. Bildner, 348 South Maple Street, Akron, O.  
O. B. Parsons, supervising engineer, Camp Perry, O.  
W. F. Wiselogel and W. E. Dyer, Wiselogel Company, Muskegon, Mich.  
James R. Buser, architect, Mount Morris, Ill.  
R. E. Buser, Buser Concrete Construction Company, Mount Morris, Ill.  
Emile G. Perrot, architect, Ballinger & Perrot, 1211 Arch Street, Philadelphia, Pa.  
E. S. Ross, St. Joseph, Mo.  
J. W. Lehr, general contractor, St. Joseph, Mo.  
J. A. Grady, contractor and builder, Cuba, N. Y.  
C. H. Knapp, C. H. Knapp & Co., Philadelphia, Pa.  
C. W. Cadwell, Windsor, Ont.  
Frank Crossett, Crossett & Lloyd Concrete Company, Birmingham, N. Y.  
Alexander C. Birnie, contractor, Ludlow, Mass.  
F. E. Wyatt, Wyatt Concrete Block Company, 135 Belmont Street, Rochester, N. Y.  
Harry E. Figger, Case School of Applied Science, Cleveland, O.  
O. H. Judson, Barrett Manufacturing Company, Cleveland, O.  
Frank E. Atwater, 6210 Harvard Avenue, S. E., Cleveland, O.  
J. S. Rightmyer, S. H. Rightmyer & Son, Auburn, N. Y.  
R. W. Russell, 1010 Rockefeller Building, Cleveland, O.  
M. C. Platt, Standard Building Construction Company, Pittsburgh, Pa.  
Jansen & Zoller, Pekin, Ill.  
George H. Gill, concrete works, Surprise, Neb.  
M. K. Gochmayer, Appleton Sewer Pipe Works, Appleton, Wis.  
John H. Tufel, the Cleveland Construction Company, 606 Citizens' Building, Cleveland, O.

Benjamin Blethyer, contractor and builder, 1803 Oregon Avenue, Washington, D. C.  
E. J. Lesher, Lesher Lumber and Supply Company, Pitcairn, Pa.  
Edward A. Welland, contracting engineer, 30 Sharp Block, Elyria, O.  
H. A. Lensing, building supplies, Evansville, Ind.  
H. H. Mandekewig, 2535 East Twenty-second Street, Cleveland, O.  
J. P. Schuyler, cement contractor, Medina, N. Y.  
George W. Winship, Saratoga Cement Sidewalks, Saratoga, N. Y.  
David B. Ledlie, contractor and builder, Saratoga Springs, N. Y.  
George C. Wright, 35 Grand Avenue, Rochester, N. Y.  
Nicholas H. Batties, manager Batties Fuel and Building Material Company, Grand Rapids, Mich.  
Frank Batties, treasurer Batties Fuel and Building Material Company, Grand Rapids, Mich.  
F. W. Howard, concrete contractor, 19 Mulberry Street, Hartford, Conn.  
C. J. Welch, Welch & Howley, Urbana, Ill.  
C. C. Mericle, Fort Jennings Stone Company, Fort Jennings, O.  
J. C. Raabe, Fort Jennings Stone Company, Fort Jennings, O.  
W. E. Blaser, Case School of Applied Science, Cleveland, O.  
R. E. Spaulding, E. W. & R. E. Spaulding, Suffield, Conn.  
Hansen & Nelson, cement contractors, brick masons, 296 Seventh Street, Manistee, Mich.  
Joseph Patterson, Box 114, St. Mary, Ontario, Canada.  
Charles H. Hamann, Genesee, Ill.  
A. J. Croman, Brantford, Ontario.  
W. W. Ballantine, artstone manufacturer, Cleveland, O.  
A. J. Marsh, Case School of Applied Science, Cleveland, O.  
C. J. Alexander, cement and masons' supplies, Dunkirk, N. Y.  
W. A. Buell, student Case School, 6001 Curtis Avenue, Cleveland, O.  
Edward G. Spitz, Case School of Applied Science, Cleveland, O.



H. S. DOYLE, MANAGER REINFORCED CONCRETE DEPARTMENT, AMERICAN STEEL AND WIRE COMPANY, CHICAGO.

F. B. McLean, 165 Broadway, New York City.  
M. B. Mook, Crowell & Sherman Company, Cleveland, O.  
Jos. Cronan, Case School of Applied Science, Cleveland, O.  
Geo. L. Weller, superintendent waterworks, Elyria, O.  
C. M. Theobald, C. E., Elyria, O.  
Theodore H. Skinner, Oneida Community, Ltd., Oneida, N. Y.  
A. E. Lindau, Expanded Metal & Corrugated Bar Company, St. Louis, Mo.  
A. B. Cochran, Armstrong Concrete Company, Boston, Mass.  
G. E. Richardson, Northville, Mich.  
M. Bovee & Son, general contractors, Northville, Mich.  
Walter Porter, Mackinaw, Ill.  
F. Lewis & Son, concrete contractors, Harpursville, N. Y.  
Harry F. Porter, C. E., Philadelphia, Pa.  
S. Frank Wilson & Son, contractors, Toronto, Canada.  
C. B. Hastings, 150 Jeff Street, Brookville, Pa.  
W. C. Holmes, Chas. L. Sanders & Co., contractors, Portland, Me.  
F. S. Phipps, Central Stone Co., St. Joseph, Mo.  
H. A. Suter, contractor, St. Joseph, Mo.  
J. R. McVey, Cuba, Allegany County, N. Y.  
J. H. Thornhill, cement contractor, Winchester, Ind.  
J. Y. Jewett, cement expert, U. S. Reclamation Service, 207 Ellsworth Building, Chicago.  
S. F. Boyer, Jeannette Concrete Construction Company, Jeannette, Pa.  
I. W. Bowman, contractor, Lisbon, O.  
James R. Gloyd, The Crowell & Sherman Company, Cleveland, O.  
D. E. Barnett, C. S. A. S., 2107 Adelbert Road, Cleveland, O.  
W. E. Deeds, Reed Deeds & Son, Cuyahoga Falls, O.  
S. C. Wason, Alberthow Construction Company, Boston, Mass.  
Addison Brannin, contractor, Aberdeen, Miss.  
Fred K. Irvine, editor ROCK PRODUCTS, Chicago.

The Mosberger-Langner Iron Company, of Buffalo, N. Y., manufacture a brick clamp which is one of the most simple and useful articles ever put on the market. No one who has to handle brick can afford to be without one of these simple devices. They are not only durable and strong, but simple in construction, and they will actually pay for themselves by the amount of time and labor saved within a few days after their purchase. They are almost indispensable in the handling of brick. The clamp can be set to carry from four to twelve regular sized paving brick. This, you will readily appreciate, means quite a labor saving. The same firm manufacture the Buffalo wrought-iron stantions, which is a perfect, durable and economical substitute for the brick pier. These iron stantions are so well known to the building fraternity that it is needless to expatiate on their merits.

The Concrete Stone and Sand Company, Youngstown, Ohio, had not only one of the largest displays in the building, but by far the most interesting from every standpoint. Interested groups were always on hand watching A. A. Pauly, the inventor, and his able corps of assistants turning out tile while you wait. Concrete tile, as made by the Pauly poured process, was the talk of the convention. The exhibit was visited by practically all the architects and builders who came to the show and many of them left thoroughly convinced that concrete tile is bound to be recognized as the great fireproofing building material. Mr. Pauly was assisted in his demonstrations by the following experts: M. Fleming, Herman Rothfuss, Thomas McKelvey, Frank Kyle, Ed. Walton and C. H. Connell.

The Ashland Steel Range and Manufacturing Company, Ashland, Ohio, made a complete exhibit of their block machines and mixers. U. S. Shelley was in charge, assisted by A. J. Bentz.

The Oneida Community, Ltd., Oneida, N. Y., had a very interesting display of their chain reinforcing fabric as applied to floors and curtain walls, also their chain column and chain girder reinforcement. The chain reinforcing idea seemed to gain the attention of a great many of the visitors. T. H. Skinner, E. D. Pitt and Mart Kinzie were on hand explaining the proposition.

The Chase Foundry and Manufacturing Company, Columbus, Ohio, made a display on the balcony consisting of their well-known ears for concrete block, tile and brick, as well as portable tracks, switches and turntables. S. M. Chase was in charge, assisted by W. C. Stocklin. Mr. Chase is making preparations to put some quarry ears on the market suitable for rock-crushing plants.

The Chain Belt Company, Milwaukee, Wis., had one of their chain belt concrete mixers with steam engine and power loader on exhibition. W. J. Roseberry, Jr., was in charge of the exhibit.

The American Hydraulic Stone Company, Denver, Colo., made a very complete display of not only their concrete building block press with power attachment and molds, but an assortment of sample blocks of various shapes, colors and textures. J. Robert Gill was in charge of the exhibit.

The Billings-Chapin Company, Cleveland, Ohio, are introducing a colored waterproof paint. It is made in fourteen attractive shades, as well as a transparent fluid which leaves the concrete its natural color. The actual appearance of the colors on the concrete was shown on the wall of blocks enclosing the exhibit. They also had a ball made of concrete hollowed out and painted with their compound and filled with water. The display was in charge of R. W. Western.

The F. G. Gauntt Manufacturing Company, Fort Wayne, Ind., had on display one of their concrete mixers. F. G. Gauntt, the inventor, and W. D. Miller were on hand to explain its advantages.

Zeiser Bros., Berwick, Pa., showed a section of a three-foot sidewalk in its various stages of construction with the Zeiser patent tie and dividing plates. A. Zeiser was in charge of the exhibition, which attracted considerable attention, and William Gilbert assisted.

A. T. Bradley, of the Century Cement Machine Company, Rochester, N. Y., showed their Hercules mixer and Hercules block machines. The Hercules mixer is well known to all of our readers. It is one of the most reliable and trustworthy machines on the market. It is compactly built of the best iron and steel and highly finished. Their block machines have been on the market for years and there are many handsome structures all over the country which attest to their superiority.

## ROCK PRODUCTS

The Garden City Sand Company, Chicago, Ill., made a complete display of their "Stonekote" cement block facing. Two hundred shades of "Stonekote" block facing were shown and fifty photographs of "Stonekote" Portland exterior houses. S. W. Curtiss, assisted by C. H. Rose, was in charge, and C. S. Webb, of Columbus, Ohio, also assisted.

Phil Koehring, of the Koehring Machine Company, Milwaukee, Wis., had one of his new model concrete mixers in operation. He was assisted in his demonstrations by William Ord, George Tower, Cleveland, Ohio, and Horace Trevor, New York City.

The D. & A. Post Mold Company, Three Rivers, Mich., showed their post molds and reinforcement. G. H. Dougherty, secretary and treasurer, was in charge of the exhibition, assisted by J. B. Roberts.

The Indiana Concrete Form Company, Indianapolis, Ind., had a display on the balcony in charge of J. H. Wiest, president, assisted by L. D. Wiest and Irvin Tenant.

The Multiplex Concrete Machinery Company, Elmore, Ohio, exhibited their new pressure concrete machines, also samples of the product. They are now manufacturing a hand or power batch mixer, which was also shown. W. R. Dawson was in charge, assisted by R. E. Peets, A. Fielbach, W. H. Peters and J. L. Keller.

The Besser Manufacturing Company, Alpena, Mich., had their hand and power drain and sewer tile machines, block machines, mixers, ornamental molds and sectional sewer forms on exhibition. H. Besser, J. H. Besser and B. Cole were in charge of the exhibit.

The J. B. Foote Foundry Company, Fredericktown, Ohio, exhibited their block machines. J. B. Foote, well known as the man who tried to standardize blocks by causing them to be labeled with the list of ingredients and time of manufacture, was in charge of the exhibit, assisted by Jay Foote.

The Runyan Concrete Machinery Company, Canal Dover, Ohio, had an exhibition of their machinery on the balcony.

The Beardsley Slab System had a reinforced concrete mesh wall to show to visitors on the balcony.

T. Hugh Boorman, president of the Knickerbocker Chemical Company, New York, and representing the Stowell Manufacturing Company, of Jersey City, had a display of their products on the balcony.

The Rutherford Cement Construction Company, Rutherford, N. J., were on hand.

Peterson & Wright, Akron, Ohio, exhibited washed sand and gravel made in the new plant of the Akron Sand and Gravel Company.

The Kerlin Automatic Post Machine Company, Delphi, Ind., had one of their cement post machines in operation. They are showing a new reinforcement. W. F. Kerlin, E. W. Bowen, J. H. Mount and C. M. Williams were on hand.

The W. N. Pattison Supply Company, Cleveland, Ohio, had a complete exhibition of contractors' and concrete manufacturers' supplies in charge of C. E. Day, E. Hascroft, R. McCombe and M. Frank.

The Ideal Concrete Machine Company, South Bend, Ind., had one of the largest displays in the hall. They showed a complete line of all of their various kinds of concrete machinery in operation, and the exhibition was enclosed in a wall made of concrete blocks and ornamental molds, caps and newel posts. Mentor Wetzstein was in charge, assisted by George Ayrault.

The Hayden Automatic Block Machine Company, Columbus, Ohio, showed their block machines, mixers, and moulds. William Simpler was in charge, assisted by George M. Friel and H. W. Remington.

The Buckeye Concrete Company, Creston, Ohio, showed a new brick and block machine. J. P. Heckman, Charles Huy and David Stutsman were in charge.

The Clover Leaf Machine Company, South Bend, Ind., had one of their model B Clover Leaf mixers, with gasoline engine attachment, on trucks. W. O. Williams and Gordon Ripley were in charge.

The Miles Manufacturing Company, Jackson, Mich., exhibited their concrete block machines, mixers and moulds. D. P. Vining, assisted by W. J. Corbett, had charge of the demonstration.

The Blaw Collapsible Steel Centering Company, Pittsburgh, Pa., had a display in the center of the hall consisting of a section of a sewer constructed by their method. J. B. Blaw was in charge.

Charles W. Bradley, Rock Rapids, Ia., was on hand demonstrating the Anchor continuous air space block machine. S. B. Leach and J. G. Coffin were also in attendance.

The American Roofing Company, Columbus, Ohio, showed some concrete roofing tile in colors, made by their machines. J. A. Hicks was in charge.

The Illinois Gravel Company, Princeton, Ill., showed a fence post apparatus, concrete mixer and steel forms of various kinds. C. F. Scott, assisted by L. H. Scott and Samuel Magnusson, were in charge.

The Eureka Machine Company, Lansing, Mich., showed one of their continuous mixers. O. S. Case and Frank Ryan were in charge.

The DeArmon McKinney Manufacturing Company, Piqua, Ohio, showed their new block machine in operation.

The Snell Manufacturing Company, South Bend, Ind., had some of their mixers on hand in operation.

The Raber & Lang Manufacturing Company, Kendallville, Ind., showed their block machines.

The National Roofing Company, Tonawanda, N. Y., had an exhibition of their gravel feldspar and rock surfaced asphalt roofing paint.

The LaGrange Specialty Company, LaGrange, Ind., showed their Little Giant cement brick machine. W. E. Snyder and J. D. Stacy were in charge.

F. P. Burness, Kansas City, Mo., made a display of concrete trucks and the Burness patented bridle for handling concrete blocks on boom derricks.

The Ransome Concrete Machinery Company, Dunellen, N. J., had one of the largest displays in the hall, showing mixers and other machines. A. W. Ransome and O. F. Wedemeyer were in charge.

#### CONCRETE APPLIED TO DWELLING HOUSE CONSTRUCTION.

By ROSS F. TUCKER, M. AM. SOC. C. E.

The next step in the extension of the use of concrete will be its adaptation to the construction of dwellings. With the army of block machines that are on the market, and the great quantity of the "output" from these machines, the bulk of which goes into dwelling house work, it might be assumed that the step above mentioned had already been taken. In a sense it has, but it is a step that, in the writer's opinion, has done concrete a questionable service. The technique of the method of manufacture to which all block makers are restricted is fundamentally wrong and can never be of great value, either constructively or decoratively. The ten to twelve per cent of water used in mixing is not sufficient to lubricate the particles of aggregate, nor to

principle of selection of aggregates combined with intelligent application to dwelling house work. While we have solved the problem of the mill and factory building combination and mixing secures results that in a finished product are astonishing and absolutely impossible of attainment by any dry process block machine that ever was devised.

Again, solid wall construction is very limited in its application, both structurally and economically in reinforced concrete, the same cannot be said at all in respect to dwelling houses. In the mill and factory structure we have a relatively large amount of concrete as compared with the lumber and labor involved in the making of the forms, whereas, in the dwelling house, with the cut-up surfaces and irregular openings, the rates of cost of forms to concrete is out of all scale and proportion and puts concrete practically out of the running in comparison with other material. Moreover, the internal stress, particularly the shrinking of concrete masses, are such that concrete walls of this kind are almost sure to crack. They must be furred or an air space formed, as otherwise they will be damp and extremely unsatisfactory. In the fall and spring there is a likelihood of condensation on the inside of an unprotected concrete wall, and, last of all, it is a difficult matter to give a solid wall any architectural treatment that can be called satisfactory, except at very considerable expense.

The wooden house is, of course, a menace to commerce with and should only be built as a last resource. Such a house covered with metal lath and furred has some excellent architectural possibilities, but when well-built will not be found to be cheaper than a rough brick wall, for the frame must be sheathed, papered, metal furred and lathed and covered with scratch coat of mortar before it is in condition to receive the stucco. This will be found to approximate closely the cost of brick work. Much has been said about the faults of stucco work, but like many other failures in the use of concrete they are traceable to the ignorance of the users rather than to the fault of the material. Stucco has been abused about as much as any other material that the writer knows of, but it will do good service every time if it is properly made and applied. I have placed it on the St. Lawrence River on the, brick and lath surfaces, where it has been subjected to a yearly range of 120 degrees temperature for ten years, and it is as good today as when applied, although the plastering on the inside, made exactly the same way, of the same material, came off in pieces a yard square on the same walls within two months after it was applied.

Stucco should be made of selected material, not of the first dirty, clayey bank sand that comes to hand. There are great possibilities in the future of stucco when properly handled. But for this development must come a cheap wall. The writer had occasion to make a study of this problem of a cheap wall construction for stucco application for the late Stanford White, who, had he lived, would have taken some steps to show what can be done in decorative stucco. But all existing methods have been too expensive and we must devise a cheap, dry wall before we can make material progress in dwelling house work. The terra cotta wall is a relatively cheap wall, but its lack of fire resisting qualities, its tremendous expansion under heat, make it a dangerous wall, unless insulated and protected. The nearest approach to the ideal wall for concrete dwelling houses seems to have been worked out by A. A. Pauly, of Youngstown, Ohio.

He has a method of delivering wet concrete from moulds in a clever and very economical manner and seems to have solved the problem of handling wet concrete and producing a dense, strong building unit at a very low cost. He has already done considerable building, and his development will be watched with great interest. With such a wall, the extension and possibilities of concrete decoration are unlimited and the future will give us fireproof homes of high structural and architectural value at low cost. The method is so simple, the requirements of skilled labor are so greatly reduced, that houses of concrete, fireproof throughout, may be constructed at a price to compare favorably with wood, and upon the walls may be applied a great variety of color and texture effects, in stuccos made of many materials, enlivened with masses of color in Falcane and Mosaic, that give the architect great opportunity for the exercise of his artistic abilities. It will create a school of design adapted to the material, and be productive of a style of dwelling possessing individuality and character combined with durability and permanency such as we know little of thus far in our suburban architecture.



SHARP RESIDENCE, CONCRETE TILE CHEAPER THAN LUMBER WALLS

develop the full set of the cement. Such material cannot possibly have the density nor the strength of a properly made concrete. All the ramming and tamping in the world, all the pressure that can be exerted by hydraulics or otherwise, will not compress a dry-made concrete into a dense, water-tight block. The particles of aggregate arch on themselves and cannot be forced to fill corners and interstices without sufficient lubrication to allow the faces and surfaces of the aggregate to slip on one another. On the other hand, the moment that sufficient water is added to secure the best results for density and strength the material is too soft to be removed from the moulds and the so-called block machines are of no value at all. It is curious that so many people have taken to block-making, as if there were something new about it.

The old-fashioned artificial stone of thirty years ago was made of the same material and in the same manner as with block machines today, and the resultant material had all the defects of these later productions—a soft, absorbent, spongy mass of low compressing strength, requiring all sorts of treatments to make it waterproof. The whole practice is wrong and the only difference between the old method and that of today lies in the numerous mechanical devices, which, with greater or lesser ingenuity, reduce the labor and mould cost to a minimum. By reason of the faults that lie at the very beginning of all block-making I do not consider that the steps taken in that direction have been of any great value to the industry as a whole, nor need we expect anything of importance to come out of it in the future. All walls built of such material must be so constructed as to avoid the dampness that such concrete must necessarily acquire, and the very softness of the stone precludes any surface treatment that can be called interesting or satisfying to any degree.

All concrete, to be strong and sound, must be wet concrete, far too wet to be delivered from its mould for considerable periods of time. The best artificial stone made in this country today is manufactured in Boston on a wet process principle, that must necessarily lie at the bottom of any concrete worthy of the name. The

The Cement Tile Machinery Company, Waterloo, Ia., exhibited tile machines, mixers, molds and sand-screening machinery. J. H. Stewart was in charge, assisted by W. H. Stewart, F. M. Kennedy, Godfrey Gross and W. L. Northrup.

The Cement Machinery Company, Jackson, Mich., one of the pioneer manufacturers of concrete machinery, showed a complete line of their mixers, block machines and molds. Sid L. Wiltse was in charge, assisted by John C. Lautenslager, John W. Miller, Walter O'Neil and William Hartigan.

The Sanford Concrete Machine Company, Toledo, Ohio, exhibited two Sanford block machines, a mixer and a Diamond shingle machine. Joseph I. Cox was in charge, assisted by A. M. Abbott, R. W. Austermiller and E. N. Crozier.

The Coltrin-Boos Manufacturing Company, Jackson, Mich., showed two of their concrete block machines and some pallets.

The Ballou Manufacturing Company, Belding, Mich., showed a Ballou mixer. W. D. Ballou and B. B. Swartwout were in charge.

The Knickerbocker Company, Jackson, Mich., had one of their Coltrin mixers on exhibition. W. B. Knickerbocker, Nels Erickson, C. B. Western and G. Schaffer were doing the honors.

## Notes of Cleveland Show.

During the progress of the convention First Vice-President Merrill Watson called a meeting of those interested in expanded metal reinforcement. Those who attended the meeting were W. C. Charlton, treasurer of the Consolidated Expanded Metal Companies, Incorporated, of Pittsburg, Pa.; William N. Hazen, chief engineer of the Expanded Metal Engineering Company, of New York; George Taylor, general manager, and W. H. Bailey, chief engineer, of the Eastern Expanded Metal Company, of Boston, Mass.; W. C. Wilson, chief engineer of the Expanded Metal Company, of Philadelphia, Pa.; Ernest McCullough, chief engineer of the Northwestern Expanded Metal Company, of Chicago; W. H. Canniff, chief engineer of the Expanded Metal Fireproofing Company, Limited, Toronto, Canada; M. G. Farmer, general manager of the Buffalo Expanded Metal Company, of Buffalo, and Merrill Watson, general sales manager of the Consolidated Expanded Metal Companies, of New York.

The delegation from the Canadian Cement and Concrete Association arrived January 13. They are a bunch of live ones. Peter Gillespie, the president of the association, headed the party. He is the lecturer on the theory of construction at the University of Toronto, the largest in Canada. The others in the party were Kennedy Stinson, of Montreal, one of the counselors of the association; V. Perry, chief inspector of the eastern division of the Transcontinental Railway, now in course of construction; Harold M. Davy, of Ottawa, engineer, connected with the Public Works Department; Purvis E. Ritchie, of Quebec; C. H. Thompson, manager of the Canadian Art Stone Company, of Toronto; P. H. Youman, of the same company; Douglas C. Raymond, Toronto, who recently formed the Concrete Engineering and Construction Company; Ivan McDonald, editor of *Construction*, formerly of the States; Gustave Kohn, of Toronto, manager of the Trussed Concrete Steel Company; R. M. Jafray, manager of the coming cement show; A. J. Cramer, Brantford, Ont.; T. Martin, of the Martin Pump and Machine Company, of Toronto; Editor Sherbarth, of Toronto, of the *Contract Record*; M. F. Wilson, editor of *Truth*, of Toronto; W. H. Canniff, and Messrs. Pulfer, Martin, Cadwell, Gray, Nixon and Codd. The party came down in a special car provided by the Canadian Pacific Railway.

H. W. Calkins, of the Imperial Plaster Company, of Toronto, Canada, was there. He is well known in the state and met a great many of his old friends in the trade. He says the outlook is good across the border.

Edward F. Whitnall, manager of the building and material department of the Pennsylvania Coal and Supply Company, of Milwaukee, was a visitor to the convention. J. P. Shearer was another Milwaukee man who came to the show. J. P. discovered the secret of eternal youth. He says that concrete construction is thoroughly established in the Northwest.

D. O. Rardin, of Athens, Ohio, one of the leading concrete men of that city and a member of the firm of Rardin Bros., says the show was the best ever. He thoroughly enjoyed the exhibit feature.

Big-hearted Harry Angel, of the Kelly Island Lime and Transport Company, is very proud of the magnificent opal stick pin which his friends in the office gave him. Harry is not easily overcome but this took him so completely by surprise that he could hardly say, "Thanks." Harry was on the firing line of the Cleveland entertainment squad and made the boys feel at home. F. P. DeVor, of the same company, was also on the job.

A. C. Horn, of Dehydratine fame, came over from New York for a few days. He was kept busy shaking hands with the boys.

Some class to that Atlas crowd. They had a table at the Hollenden where their friends were always welcome.

F. S. Phipps, of St. Joseph, Mo., will be in great demand after this at conventions. His paper on steam-curing blocks was well received.

F. E. Anthony, manager of the Pittsburg Branch of the A. P. W. Paper Company, was on hand during the convention, shaking hands with friends in the trade.

E. L. Williams, of San Francisco, was much interested in the Pauly system of poured concrete tile. He came the greatest distance of any visitor and should have had a prize for it.

Robert A. Bachman, Thomas A. Edison's general manager, was a notable figure. You can learn more from a few minutes' conversation with him than you can in reading a book. Although recognized as one of the great men of the industry, he is modest and retiring and prefers to stay out of the limelight.

P. H. Learner, a concrete machinery manufacturer, of Kokomo, Ind., was a visitor. He says he would have liked to have made an exhibit, but his voice is not strong enough to stand the racket.

Charles Schmutz, of the Superior Portland, was there with the glad hand. If you don't know who they are, ask Charlie, he is one of the old-timers in the business and can call most of the delegates by their first name.

C. H. Jaite, of the Jaite Paper Bag factory, of Boston, Ohio, helped the entertainers.

George H. Carlon, president of the Iowa association, and L. E. Porter, president of the Nebraska association, were both on hand during the show. Both are enthusiastic over their coming shows and secured several of the exhibitors' promises to be on hand at their shows.

ROCK PRODUCTS dailies were distributed during the convention and were the subject of much favorable comment. Some of the boys got impatient one morning when it was a little late. All enjoyed it.

Charles A. Burgess, the Ingersoll-Rand quarry specialist, was on hand with a fund of new stories. You can't beat the big boy when it comes to negro dialect stories.

Bert W. Swett, of the Lehigh, kept a crowd of good fellows up till three o'clock in the morning telling stories. Bert never seems to run out of them and the more he tells of them the better they get.

James B. Weaver, Whitehall's New York representative, came in for the last few days of the show, bringing his handsome young wife with him.

H. F. Porter, who delivered a paper at the convention, is the champion amateur high jumper of the world. He stands six feet three inches in height and is a fine specimen of young American manhood. His paper was one of the brightest hits of the convention.

J. U. C. McDaniel, of the Chicago A. A., came in for a few days and gave the boys the glad hand.

The biggest retailers of building supplies observe a steady and constantly growing call for hydrated lime. Of course there are hydrates and hydrates. Some come as by-products from industries using one or another kind of decarbonating process; others are produced to make the most perfect hydrate obtainable. The right kind of quality always gives satisfaction under the most trying conditions. Complaints can always be traced to imperfections that could and should always be avoided for the good of the business.

J. J. Urschel, the well known lime manufacturer, of Toledo, and also known to the trade as the automatic bag man of the lime industry, spent a day with the convention at Cleveland.

Big retailers observed in the Hollenden lobby as interested spectators in the success of concrete and cement were: Frank Hunter, Sr., and Frank Hunter, Jr., of Columbus; John W. Eichelberger, of Dayton; Peter H. Degnan, of Toledo; R. L. Beck, of Cleveland; W. A. Fay, of Cleveland; Paul Justice and George T. Graves, of Lexington, Ky.; W. W. Coney, of Cincinnati; J. B. Blanton, Frankfort, Ky.; E. H. Walton, Youngstown; William Adams and W. F. Harper, of Zanesville; H. J. Blume, Toledo; Fred Cress, of Akron; F. H. Holland, of Cleveland; Perry Quale, of Cleveland, and all the balance of the Cleveland crowd, of course.

W. H. Loller, the famous fire chief of Youngstown, is interested in fireproofing of every kind and consequently took in the show.

S. H. Wightman, Cleveland, Ohio, showed one of the only novelties, consisting of reinforced brick-faced blocks. It is a concrete block in combination with thin bricks, which are arranged in any of the different style bonds for facing the block. This new idea attracted considerable attention. S. H. Wightman, the inventor, was in charge, assisted by H. C. Kelley and L. G. Wightman.



## Standardization of the Sand-Lime Brick.

For more than a year the officers and directors of the National Association of Manufacturers of Sand-Lime Products, acting under instructions and resolutions adopted at the Columbus convention in December, 1907, has been working upon the momentous problem of standardization. In all the past ages of history there have been just as many kinds and grades of brick as there are brickmakers. Every man has been a rule unto himself, and as is usually the case under such conditions each brickmaker proclaims his own product to be "the best on earth."

It was only a few years ago that the framers of the building codes for the city of New York and the city of Philadelphia first brought up the question of quality in reference to brick. Brick was simply brick, no more or less; hard, soft, porous or dense, no matter what the quality might be, still it was brick. The first man who suggested that good brick should show a strength under compression of 500 pounds to the square inch started a new train of thought, and set the calculators to work with their pencils. Very soon plenty of brick were found that did not come up to this single specification, and right there was the first separation of the sheep from the goats. Other specifications were soon considered, the density and tensile strength being taken up in order. The compression test was pushed up to 3,000 pounds, and because that shut out practically all the brick offered in the principal markets, the specification was arbitrarily placed at 1,200 pounds to the square inch.

Out of this chaos there arises a question, "What qualities must be present to constitute a good building brick?" The framers of future building codes everywhere would like to know the answer to this question. Builders want to know because they need some starting point on which to base their calculations of values in the contemplated buildings. Architects and engineers need this information every day in the practice of their professions. The National Bureau of Standards and every technical society whose members are interested in the building profession are deeply interested. It is the business of the fire underwriters to know what a good brick should be, because much the greater part of the risks they write in the last elimination of the equation comes down to the structural value of the brick in the wall.

It is useless for one manufacturer to declare his brick better for any given purpose than that of his neighbor, or to criticize his methods or materials used in their manufacture. It is the old story of the pot calling the kettle black, in most cases, and the time has come when it is necessary to erect some kind of a standard of measurement for the inherent qualities that will divide good brick from bad brick. There must be some place to draw the first line before any further progress can be made. A poorly defined and altogether insufficient standard would obviously be much better than no standard at all, because one could calculate how much better than any known quantity might be desirable with the hope of finding just that. On the other hand, it is quite easy to make a set of standard specifications that will be somewhere in reason as a starting point.

The sand-lime brick, as such, has been repeatedly assailed on every hand, without reason and most carelessly. Often the very people who attack sand-lime brick with greatest ardor are themselves guilty of making and marketing a very much inferior building material than the one they are attacking. After all is said, it must be conceded that sand-lime brick is the most scientifically manufactured material in the shape of brick yet introduced. This applies to the securing of the exactly right materials and also to their manipulation down to the minutest detail. Either modern applied science is not good for anything in the commercial world of brickmaking, or the sand-lime brick manufacturers can, will and do make the best brick in the world. Wherever the best specimens of sand-lime brick are compared with the best specimens of any other classification of brick they lose no scores. When the poorest specimen of sand-lime brick are compared with the poorer specimens of any other kind of brick the score is always largely in favor of the former, and thus modern applied science is vindicated again—it always is in the end.

As all other organizations of brickmakers dreaded to approach the question of standardizing their product—even flatly refused after temporizing for a long time to have anything to do with a movement—the National Association of Manufacturers

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of Sand-Lime Products resolved to take the initiative. The men who compose this organization are game enough to have the whole truth known to all the world about their product, which everyone is willing to concede at first glance to be the most beautiful of all brick-shaped products. At the worst they had this one quality if all others failed.

It was no small task for a committee of busy manufacturers and men of science to take the long route of original investigation and research to get at the facts of the desirable structural qualities for making good brick. The National Board of Fire Underwriters gladly gave the matter their attention. The business feature of the proposition appealed to them at once. Accordingly arrangements were made for a series of comparative tests to be made at the Underwriters' laboratories at Chicago, in which the underwriters and the association jointly agreed to defray whatever expenses might be incurred.

Committees of the two organizations working with the most eminent scientific authorities on building materials (Prof. Ira H. Woolson, of Columbia University and E. W. Lazell, Ph. D., consulting engineer) conducted the tests at the Underwriters' laboratories, according to theoretical standards prearranged. Typical specimens of all classifications of brick were fairly secured and just as fairly tested. It was a big undertaking, but the results are more than gratifying. First it was found that the theoretical standard had been placed too high for all and every kind of brick, and it was easy to decide definitely what values should govern in all future tests. The sand-lime brick held its own in all these severe comparisons, so that we can claim, without any chance of contradiction, that when it comes down to actually testing and comparing bricks of different kinds the sand-lime brick does not have to take a back seat for any other product, and this is now recognized by the highest building material authorities in the world.

The task now in hand is that of crystallizing the deductions from the scientific data taken from the tests into a set of standard specifications that shall govern the manufacture and selection of brick for building purposes in the future. The joint committee will have to meet and adopt every detail so that practical benefit to the structural world may result. This will be accomplished just as early as such important measures can be completed.

Naturally so much work, involving the use of such an amount of expensive apparatus, could not be done without consequent reasonable expense. After all the funds of the association were exhausted the committee kept right on to the finish, and this is the explanation of the assessment that was ordered at the Washington convention. None of this work can avail the members anything unless the work can be properly finished. The standard will promptly be recognized, there can be no reasonable doubt of that. More than this, it is quite certain that all reputable organizations having to do with construction in any way will be glad to adopt a standard brick at last, no matter of what material it is composed.

The loyal members of the National Association are to be congratulated upon the diligence and intelligence of their officers and the great progress they have made in a most difficult task. The end of the long effort is now in sight, and the association can claim that they have given to the structural world the first intelligible specifications by which to measure the qualities necessary to make a good brick.

## Great Western to Operate Soon.

KANSAS CITY, Mo., Jan. 18.—The Great Western Portland Cement Company, whose general offices are in the American Bank Building, expect to have their mill in operation about February 1. Charles H. Apple, who is the head of the institution, said that they have already secured enough orders to keep them running for some time. The mill is located at Mildred, Kan.

The Columbia Silica Company, at Frederick, Wis., is planning to equip its plant for the manufacture of sand-lime brick, to have a capacity of 20,000 daily.

The Cement Tile Machinery Company, Waterloo, Ia., send out a 1909 calendar with the illustration of "Trouble for the Bully," a little episode of the streets of New York, painted by the world's most famous portrayer of city street gamins, J. G. Brown.

The Marquette Cement Manufacturing Company, with offices in the Marquette Building, Chicago, have gotten out a very useful calendar, with illustrations of their plants and places where Marquette cement has been used.

The Atlas Portland Cement Company, 30 Broad Street, New York, have sent out a very useful calendar for the office, with illustration of their brand.

C. K. Williams & Company, Easton, Pa., manufacturers of dry colors and fillers, have sent out a very neat calendar, with illustration of their trade-mark.

## THE TWIN CITIES.

MINNEAPOLIS, MINN., Jan. 14.—The new year starts off with considerable more promise than was the case a year ago. Building is seldom active in January, and this is no exception. But the prospects, while not as far developed as in some years, owing to the conservatism which still exists, seems likely to develop into a good year. There is a fair amount of new work in view, and most of it seems more than likely to be carried out. There is much less of the vague prospect in current reports which so often mark the building news of the opening of the year, and more of a reasonable certainty to the projects published. Building materials are slowly strengthening, and some materials have reacted from the low prices and have begun to advance. Prospects seem to favor a gradual advance.

There seems to be some likelihood that labor will make certain demands for an advance in wages during the season. In Minneapolis the carpenters have begun talking of an increase of 2½ cents per hour, on account of the scale being less than that governing in St. Paul and Duluth. Doubtless this will start similar talk from other crafts. Any general talk of advances will certainly have a depressing effect upon the building prospects.

F. H. Ellerbe, who for six years past has been building inspector of St. Paul, has resigned, and has engaged in architectural practice in St. Paul, with offices in the New York Life Building.

F. X. Heimenz has sold his interests in the Minnesota Quarry Company of St. Cloud, Minn., to his partners, John Sperry, Oscar Bostrom and John D. Heimenz.

John G. Granberg and G. Granberg have engaged in the manufacture of cement blocks at 3448 Fifth Avenue South, Minneapolis, as the Sterling Cement Works.

Clark & McCormack, quarrymen of Rockville, Minn., have over half a million dollars' worth of work in sight.

The brick plant at the workhouse in Minneapolis produced 2,000,000 brick during the past season, using the labor of the men sent up. It is expected to make the output for the coming season 3,000,000 brick. Superintendent McDonald also wants to put in an equipment for making concrete blocks as well.

Jeffe Schelde, a well known contractor and builder of the Northwest, whose home is at Litchfield, Minn., has established a trade school there, this being the second season. He conducts it through the winter months, when workmen may get away with the least inconvenience.

The annual report of the board of control of state institutions of Minnesota recommends that contractors' bonds hereafter be but half the amount of the contract price instead of the full amount, as has been the rule.

The Bailey-Marsh Company is a new corporation just formed to engage in general contracting in Minneapolis. Offices have been opened at 836 Metropolitan Life Building.

Watson Townsend has been named as building inspector for St. Paul, succeeding F. H. Ellerbe, who resigned.

The representatives and agents of the Kettle River Quarries Company met at the head offices in Minneapolis between Christmas and New Year to consider the prospects, exchange experiences and suggestions and to have a trade conference generally. There was an attendance from every office, and considerable entertainment was provided, to alternate with business.

C. F. Haglin, a prominent Minneapolis contractor, has sailed for Europe, to be gone during the remainder of the winter.

William Pierce Cowles, structural engineer in the department of building inspection in Minneapolis, has resigned his position.

Minneapolis building permits for 1908 exceeded those of 1907 by about \$40,000, there being a spurt of new work toward the end of the month, which overcame the adverse lead of over \$100,000 which existed well into the month. In St. Paul, the month of December showed a good gain, the increase being 70 per cent. The totals for the year were \$7,625,538 against \$8,057,981.

W. M. Crawford & Co., general contractors of Minneapolis, have filed articles of incorporation with a capital stock of \$25,000.

The new building inspector in St. Paul announces that he will insist that a building permit be issued for new work in advance of starting construction, and also that plans be filed for inspection, instead of doing as some seem to prefer, give a general description and take out the permit.



The Ricketson Mineral Paint Works, Milwaukee, Wis., have forwarded to ROCK PRODUCTS their latest novelty. It consists of a miniature cardboard paint barrel, done in colors—red, white and blue—with the words "Roll Along" in black extending from end to end. On the reverse side they have printed the following: "Roll along the good word. Keep the idea circulating that the best colors made for tinting mortar, cement building blocks, clay or cement, cement and sand-lime brick, cement walks, paper, etc., are Ricketson's mineral colors, ground by special process to great fineness and perfect purity; brilliant in tint and absolutely permanent. Cheapest because they go the farthest. And remember, 'They Never Fade.' Come in red, brown, buff, purple and black. Ricketson Mineral Paint Works, Milwaukee, Wis." The idea is unique and whoever receives one of them will take sufficient time to read all that appears on this novelty.

The Peerless Brick Machine Company, Minneapolis, Minn., not only set things afire with interest about their machines whenever they attend a convention, where they sell great numbers of their Peerless, but wherever their machines are introduced it seems as if their customers were more than anxious to testify to the many merits of their machines and testimonials are received by them continually. We herewith reproduce a letter received by them from the Twin City Rapid Transit Company, of Minneapolis, which is a case in point:

Mr. L. V. Thayer, President Peerless Brick Machine Company, Minneapolis, Minn.

Dear Sir: Some time ago you asked me what results we had received from the use of your brick machine in the several buildings that we have built for this company in the past two years where we have used cement brick. All the brick for the car station, shops and storehouses at the new location, Snelling and University Avenue, St. Paul, covering some twenty acres of ground, have been made on five of your machines, also the brick for the entire walls of the substation building on Lake Street.

I am more than satisfied with the results obtained with the machines in both speed and turning out brick and quality of same, also as being the best hand-brick machine in the market. Yours very truly,

CHARLES F. FERRIN,  
Superintendent of Construction.

The Marblehead Lime Company, of Chicago and Kansas City, have issued a booklet on "The Use of High Calcium Hydrated Lime in Portland Cement Mixtures." It covers the points that they wish to bring out very thoroughly. It is concise and terse in treating the subject and conveys much valuable information. The authorities for sustaining their statement are given and the argument is well sustained.

It also treats of cement-lime mortar, cement blocks, waterproofing of concrete and cement walks. It is a valuable booklet and is interesting as well as instructive.

The F. D. Cummer & Son Company, of Cleveland, Ohio, have just issued an attractive pamphlet illustrating their continuous gypsum calcining process. They also give cuts of some plants using this process, together with letters of recommendation.

Chalmers & Williams, engineers and manufacturers of mining machinery, whose Chicago general agents are the Marsh Company, offices Old Colony Building, write us that recent sales have been made of the Kennedy gyratory crusher as follows: The Jenckes Machine Company, Sherbrooke, Quebec, Canada, two No. 3 crushers; the Pulaski Iron Company, Virginia, one No. 4; Socorro Mines, Silver City, N. M., one No. 5; Marsh Company, Chicago, one No. 6; Storm King Stone Company, Cornwall, N. Y., one No. 6 and one No. 8; Nyack Trap Rock Company, Nyack, N. Y., one No. 8. Among other recent sales in this line was one for a 500-barrel cement plant for the Piedmont Portland Cement and Lime Company, Davette, Ga., including Kennedy crushers. In regard to these Kennedy "Gyratory Crushers" they wish to call special attention to these facts: biggest openings, greatest capacity, least power required, only crusher with ball and socket eccentric, made by people who know how, sold by people most of you know, and if their claims are true you want to know it. Write them and they will tell you how to find out. Catalogue free.

The United Kansas Portland Cement Company, whose offices are in the Commerce Building, Kansas City, Mo., publish monthly a bulletin devoted to and under the title of *The Use of Portland Cement*. Each number treats of one distinct subject and covers that subject as thoroughly and as completely as can be done in the confines of a bulletin. It is produced in an exceedingly attractive form, with clear cut illustrations and the manner of expression is pleasing, forcible and dignified. Every issue should be saved for reference as the matter contained is valuable and will be of assistance to all engaged in the cement industry. This little pamphlet began its career November 1, 1908, and gives the History of Portland Cement in that issue. The December number treats of "Concrete Highway Bridges and Culverts," and similar subjects will be discussed throughout the year.

They ask the co-operation of every one interested and request that you send them descriptions and photos of concrete work where "Sunflower" or "Indian" cement has been used. If of sufficient interest, half-tones will be made of the work, the communication printed and due credit given. All cement users should encourage the United Kansas in their efforts and give them every assistance in their power. The bulletin will be mailed free to all users of cement, upon request.

Robert S. Edwards has opened a San Francisco office at 313 Howard Street, San Francisco, Cal. E. O. Quinn, M. E., is in charge of the work on the Coast and a specialty of the designing of cement and lime plants as well as all concrete work will be maintained. Mr. Edwards will remain at Boston and manage affairs from that end. He is at present on a trip to Jamaica and British Honduras, investigating cement and lime rock deposits for Boston capitalists.

## CLASSIFIED ADVERTISEMENTS

Advertisements will be inserted in this section at the following rates:

For one insertion ..... 25 cents a line  
For two insertions ..... 45 cents a line  
For three insertions ..... 60 cents a line

Eight words of ordinary length make one line.  
Heading counts as two lines.

No display except the headings can be admitted.

Remittances should accompany the order. No extra charges for copies of paper containing the advertisement.

### EMPLOYEES WANTED

#### WANTED.

Experienced, energetic, successful cement salesman of character and dependability for western territory. State whether married, where last employed, age, nationality, academic education and references.

Address A. G. L., care Rock Products.

#### EXPERIENCED LIME MAN

wanted to manage two kilns and hydrating plant near Albany, N. Y., on profit-sharing basis. Plant modern and entire output contracted for. Must know the business thoroughly, be a first class executive and honest. Address W. M. YOUNG, 2519 Newkirk Ave., Brooklyn, N. Y.

#### PLASTER MILL FOREMAN.

Capable foreman to take charge of mixing plant, one who understands the mixing and marketing of different brands of hardwall plaster (sanded) and finishes. Must be in a position to take full charge of small plant and operate it at minimum cost.

Address S. R. B. S., care Rock Products.

### EMPLOYMENT WANTED

#### WANTED—POSITION.

by engineer of 25 years' experience in construction and operation of stone crushing plants; familiar with all the details of the business; references.

Address BOX 75, care Rock Products.

#### POSITION WANTED

as salesman or superintendent by experienced brick and tile maker. Understands construction work. Good references. Reasonable salary.

Address F. G., care Rock Products.

#### WANTED—POSITION

as superintendent of lime plant. Have worked for one man 28 years and have been with the Bethel & Redding Lime Co. three years as superintendent. Am with above company at present.

Address J. W., care Rock Products.

The Sandusky Portland Cement Company, of Sandusky, Ohio, are supplying their white Portland cement for use in the following important contracts: For exterior cement stucco on Davis Schonwasser Building, San Francisco, Cal.; in mausoleum being erected at Swanton; Masonic Temple Building, St. Louis, Mo.; for lining and finishing swimming pool at Sanford Public Bath, St. Louis, Mo.; in work on the Capitol Building at Santa Fe, N. M. They are also furnishing their waterproof compound in the following important work: Presbyterian Hospital, Chicago, Ill.; New Washington Hotel, Seattle, in basement floor work; on John Jacob Astor Estate, Rheinbeck, N. Y.; New City Insane Asylum, St. Louis, Mo.; in city reservoir construction at Oil City, Pa.

The Edison Portland Cement Company, offices 1133 Broadway, New York City, have sent us a copy of their new catalogue-booklet. From the point of illustration it is one of the most interesting of any literature of the class that we have seen for some time. They state that they have taken considerable pains and have gone to a very large expense to get together facts, photographs and descriptions of the matter contained therein, and this fact speaks for itself. It is not often that a manufacturing concern can obtain such a variety of illustrations for books of this kind, containing, as it does, illustrations of federal and municipal construction work in all parts of the country, together with the best specimens of architectural endeavor which concrete and reinforced concrete have made possible. Examples of monolithic construction, such as filtration plants, bridges, viaducts, subways, tunnels, storm relief sewers, gigantic ice piers, hollow and solid dams, skyscrapers, dwellings, garages, enormous spans for interior con-

struction, all of which will prove that concrete has practically no limit as a building material.

"Edison" cement is making huge strides in popularity with the architect, engineer, contractor and builder as a very dependable cement, as these illustrations will show, for these examples of construction have been designed and executed by some of the foremost architects, engineers and contractors in the country.

The Peirce-Walton Company, contractors' complete equipments, 1122 Land Title Building, Philadelphia, Pa., is the latest arrival in the trade. Its personnel is composed of young hustlers who have attained the front rank, and are regarded a strong team. They obtained a charter under Delaware state laws on January 1, 1909; authorized capital, \$50,000, with Henry T. Pierce, president, and Harry J. Walton, secretary and treasurer. The company makes a specialty of designing and equipping complete concrete mixing and rock crushing plants of large capacity. It is the exclusive agent in this section of the T. L. Smith Company, manufacturers of the Smith mixer, Chicago, Ill.; the Smith & Post Company, Milwaukee, Wis., manufacturers of Symons' gyratory crushers and revolving screens, etc.; the Chicago Concrete Machinery Company, Chicago, Ill., manufacturers of the Chicago mixers and concrete elevators; the Cyclone Drill Company, Orrville, Ohio, manufacturers of the Cyclone well-drilling and core machine and economy blast hole-loading machine, and the Ohio Road Machinery Company, Oberlin, Ohio. Henry T. Peirce was formerly manager in this section for the T. L. Smith Company, prior to which he was employed in large contracts and concrete construction work. Harry J. Walton is a mechanical engineer and has had considerable experience in construction work.

## MACHINERY FOR SALE

#### ENGINES AND BOILERS FOR SALE.

Engines—Corliss, Automatic and Throttling, all sizes from 1 to 500 H. P.  
Boilers—Horizontal, Portable and Vertical, all sizes from 1 to 200 H. P.

Pumps, Heaters, Tanks, Sawmill and General Machinery.  
Write for our prices on your requirements.

THE RANDLE MACHINERY CO.,  
1745 Powers St., Cincinnati, O.

#### FOR SALE.

Lidgerwood, 30 H. P., No. 72 boiler.....	\$ 750
Flory, 12 H. P. hoist, D. C. D. D. ....	500
Little Giant 1 yd. traction shovel.....	2,650
Hayward $\frac{3}{4}$ yd. orange peel bucket.....	375
Hayward $\frac{1}{2}$ yd. orange peel bucket.....	475
New 1 yd. clam shell bucket.....	375
Vulcan 8-ton, 24" gauge locomotive.....	1,250
60 Western 24" gauge, $\frac{1}{4}$ yd. cars at.....	30
45-ton Bucyrus, 3 sets engines.....	3,500
Road rollers, stone crushers, concrete mixers, etc.	

We can save you money.

WILLIS SHAW CO., Chicago, Ill.

#### CRUSHER FOR SALE.

Gates No. 4 Gyratory, in fine condition. Cheap.  
R. P., BOX 2, Sta. A., Cincinnati, O.

#### FOR SALE.

20-ton overhead traveler, 38-foot span; electric power or rope drive, 135 feet track; strictly first-class. Also 20-ton stiff leg stone yard and quarry derrick, Scoville make. 50-foot boom, double engines on mast, revolves full circle either direction. Fine condition.

WILLIS SHAW, 171 La Salle St., Chicago.

#### THE "DIAMOND" CONCRETE DREPER

never gets dull. Fills every want for general work. No concrete works complete without them. Price by mail, \$1 each, or \$9 per dozen by express, not prepaid.

LANDIS CONCRETE CO., Waynesboro, Pa.

P. S. Also a beautiful vase mould. Write for circular and particulars.

#### FOR SALE.

For want of further use, one 24 a minute concrete brick machine. Wetlaufer Bros. make. Good as new. Cost with over 200 new pallets with 8 iron frogs screwed on each one, \$350. Will sell for \$220 cash.

LANDIS STONE CO.,  
Waynesboro, Pa.

#### FOR SALE.

The last of my cement block plant equipment. One Egg & Dart Miracle corncie outfit, 9 and 12 inches wide, complete. Regular price \$42, my price \$25. Two hundred 10 in. Ideal iron pallets, regular price 30 cents, my price 15 cents. One (1) Chicago 60 mixer mounted on trucks with Fairbanks-Morse 2 H. P. gasoline engine attached, regular price \$350, by price \$225. All in first class shape, used part of one season. Prices f. o. b. Chicago.

Address F. J. MORSE,  
519 Chamber of Commerce Building.

## BUSINESS OPPORTUNITIES

#### DRAIN TILE FACTORY FOR SALE.

Up-to-date in every respect and operating very profitably. Make fine quality of tile 4" to 24". All the orders we can handle.

Address O. D. T. CO., care Rock Products.

#### FOR SALE.

Valuable gypsum property, near the diamond mines in Arkansas. Write for full particulars.

Address "12-M.", care Rock Products.

#### A LARGE DEPOSIT OF GYPSUM

For sale. Situated on Bras d'Or Lakes, Nova Scotia; it occurs in a large compact body right at the water's edge. No railroad would be necessary in shipping. The water is deep and the harbor is unsurpassed. The overburden is not heavy, consisting only of a little earth and moss. The gypsum, which is of excellent quality, contains 87 per cent calcium sulphate and only 20 per cent of insoluble matter. It is well exposed in cliffs running from 20 to 150 feet in height above water level; there are several million tons in sight. I will be glad to furnish samples and further particulars to any interested parties. Have also for sale a very fine tripolite deposit near shipping, and also a large deposit of kaolin or potter's clay.

IVAN A. BAYLEY,  
Box 426, Sydney Mines, Nova Scotia.

#### FOR SALE.

Horseshoe Quarry at St. Mary's, Ontario. Splendid limestone quarry, fully equipped with crushers, lime kilns, etc.; switching privileges with two railroad lines; splendid market in a half dozen cities within a radius of forty miles. Address

THE LONDON & WESTERN TRUSTS CO., LTD.,  
London, Canada.

## MATERIAL FOR SALE

#### FOR SALE.

Large deposit of limestone and clay on railroad. Good opportunity for cement plant. Address HARRY M. FARIN, No. Adams, Mass.

## ROCK PRODUCTS

## INCORPORATION. PATENTS. TRADE-MARKS.

Companies incorporated under New Jersey laws. Expert service. Patents and Trade-Marks secured.

F. MAX GRESS,  
Registered Patent Attorney, Trenton, N. J.

## THE HENRY MARTIN BRICK MACHINE MFG. CO.

LANCASTER, PENNA.

ROCK CRUSHING MACHINERY  
BRICK-MAKING MACHINERY  
CLAY WORKING APPLIANCES  
CEMENT BRICK  
MACHINERY  
SAND GRINDING  
MACHINERY  
SAND DRYERS, BRICK DRYERS, ETC.

SEND FOR PLANS AND ILLUSTRATED CATALOGUE



## WANTED—PARTNER

who can invest \$3,000 in cement block and concrete business. Well established trade. Modern machines. Five years' experience in all kinds of mason and cement works. Want to extend business. Can furnish best of references. Applicant must be strictly honest.

Address F. L. S., care ROCK PRODUCTS.

## FOR SALE.

A complete cement block and sewer pipe plant, consisting of six block machines, four sizes pipe molds, one brick machine, track, cars and other equipment to make a complete plant. Has been used but little. Address BOX 241 Meridian, Miss.

IMPORTANT  
NOTICE

The Universal Crusher and Pulverizer, Model 1908-09, will be running on exhibition in Chicago, Ill., at the Coliseum, Booth No. 129, during the Cement Show, February 18 to 24, 1909. This is the Machine in which you and all are interested in. Come and meet us. You are cordially invited.

## THE UNIVERSAL STONE CRUSHER CO.

CEDAR RAPIDS, IOWA.

Peirce  
City  
White  
LimeSECOND-HAND  
ENGINES DERRICKS and BOILER

One Center Crank Automatic Side Valve Horizontal, 30 H. P.  
One Stationary, 40 H. P.  
One Center Crank, 50 H. P. (all in first-class condition).  
Three 15-ton Derricks complete without boiler (practically new).  
One 5-ton Derrick complete, without boiler (practically new).  
One 72 x 18 Stationary boiler complete, 100 lb. pressure (practically new).

ERIE FORGE CO., Erie, Pa.

Fast Trains  
Day  
and  
Night  
on the

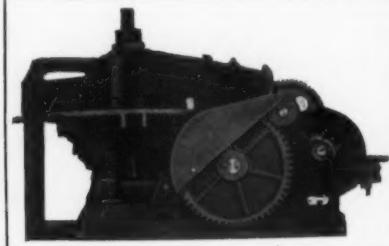
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CHICAGO

Sand Lime  
Brick Machinery

## The Perfection Press

is a result producer. We have the testimonials that prove this press can turn out more perfect sand lime brick than any other press on the market.

The Cleveland Brick Machinery Co.  
Wickliffe, Ohio

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Woodville White Lime Co.	87

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for Mortar, Brick, Cement, Stone, etc., and proved it to be absolutely permanent. Red, Brown, Buff, Purple and Black.

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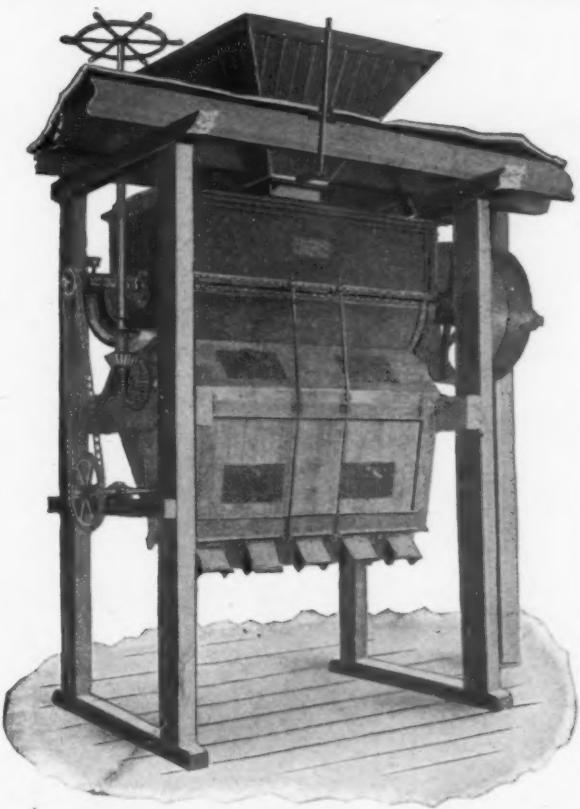
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Takes from 4 paving brick to 12 regular.



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A perfect, durable and economical sub-  
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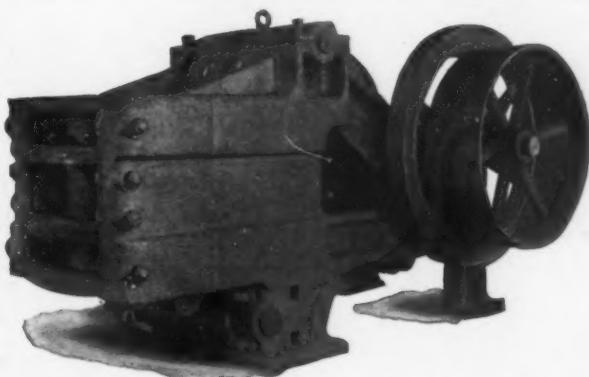
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NOISELESS,  
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For Mixing Hair Fibre, Wood Fibre and  
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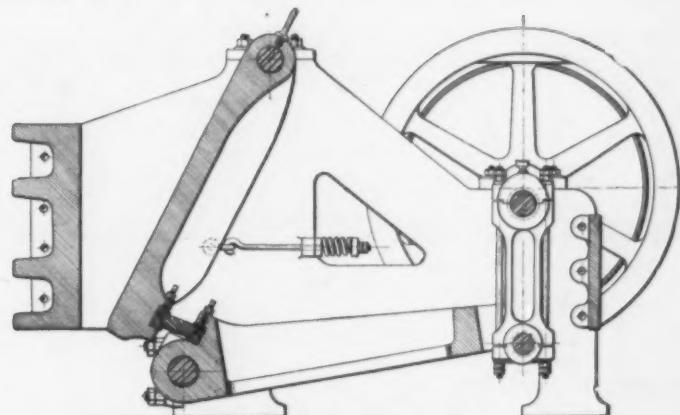
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Jaw and Rotary Crushers for Gypsum, Reels,  
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EHRSAM NO. 4 JAW CRUSHER.

This machine will handle large chunks and reduce from 30 to 40 tons of Gypsum per hour to 2½-inch maximum or smaller if wanted.



NO. 4 JAW CRUSHER, SHOWING SECTIONAL VIEW OF NIPPER  
The jaw opening at inlet is 18x28 inches.

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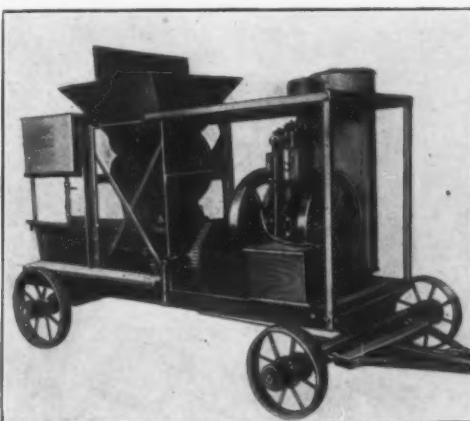
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Combines the best features of all the others and has none of their faults. The ideal concrete mixer at last. Accurate in proportion. Light running and especially adapted for mixing concrete where it is necessary to use it in large quantities. Has a capacity of two hundred and fifty sacks of cement in ten hours making a one to four mix.



The Best  
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This mixer is made mounted for portable work and on skids for stationary work.

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Manufacturers of CONCRETE MIXERS, CEMENT BLOCK MACHINES, CEMENT DRAIN TILE MACHINES, HAND TILE MOLDS, POST MOLDS, ETC. Send for prices.

It will pay you to use  
**The JAITE PAPER SACKS**  
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**Cement, Lime and Plaster**  
 EMBODY  
**Strength and Flexibility**

DO NOT BECOME HARD AND BRITTLE---AS THEY ARE MADE  
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Have that **LEATHERY FEEL** which makes it easy to tie.

We solicit your orders, knowing that once a customer, always a customer.

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Is being used by all leading Plaster Contractors. It has become so widely known for the following reasons

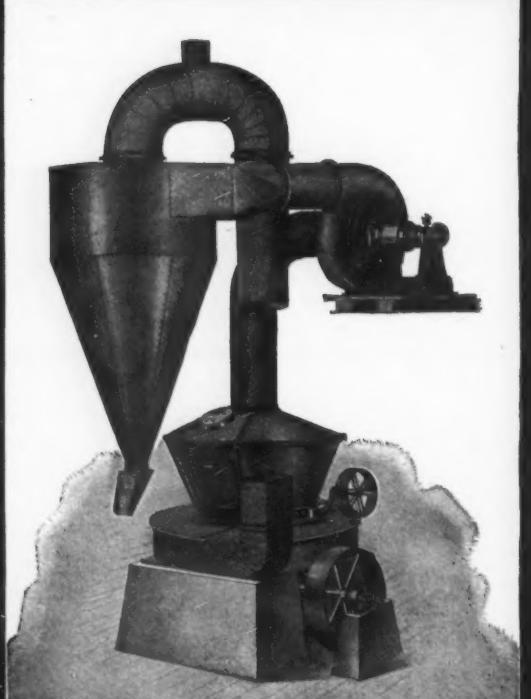
- BECAUSE it furnishes the strongest protection to the plaster corner; gives just the right rounding and is a guide for the plasterer in making a plumb, straight angle.
- BECAUSE with its peculiar shape the plaster is not thin and feather-edged where it joins the metal, and so does not crack and flake off.
- BECAUSE the steel is perfectly protected from rusting by a heavy coating of zinc, put on by the **Hot Galvanizing Process**. The electro-galvanized metal corner (which you may get unless "Parker" is specified) does not withstand the chemical action of hard plaster.
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MANUFACTURED BY

**Sharon Steel Hoop Company,**

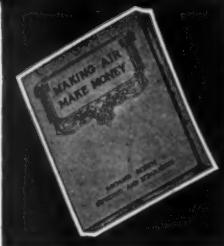
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N. Y. OFFICE: Fuller Bros. & Co., 139 Greenwich St.



## SAVING MONEY IN YOUR GRINDING ROOM

*Is not all that*



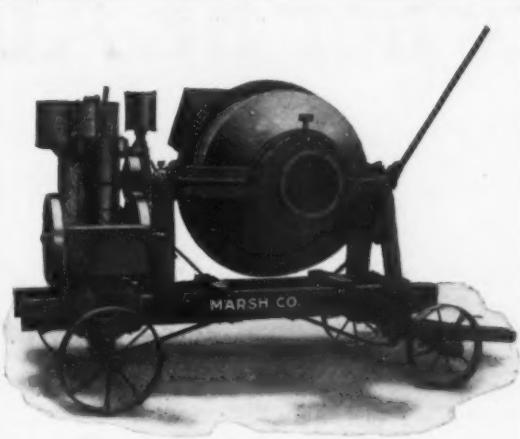
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In every case where this system has been installed it has proven itself an economy not only in the actual grinding and separating of materials reduced to powder but in saving money or improving the work of other departments of the factory. The reading of our book may surprise you as to what we can do for you.

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PULVERIZER CO.,  
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*Sign this coupon, tear off and mail*  
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BROTHERS  
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Furnished with any combination of power and mounting, chain or gear connection at option.

## Marsh-Dexter Mixer

We claim a lot for this machine. If our claims are true you want to know it. If you will write us we will tell you how to find out.

**Marsh Company**  
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CHICAGO

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HAVING completed our new plant we are now prepared to ship cleaned and dried sand especially adapted for foundry use and concrete work.

No order too large for us.

**Illinois Valley Sand Co.**  
OTTAWA, ILL.

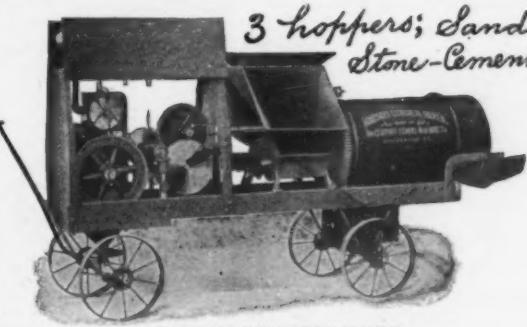
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**WHITE  
Silica  
S A N D**

Just the right thing for molding artistic concrete work of all kinds. Pure silica as white as snow that will produce a white product for ornamental exterior and interior concrete finish. The perfectly practical facing material that has never been obtainable before. Quantity unlimited, price reasonable.

SHIPPING FACILITIES UNSURPASSED

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Send for Catalogue

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### HERCULES

#### CONCRETE MIXERS

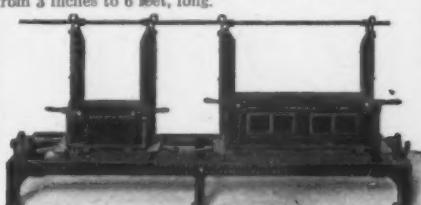
are compactly built and easy to move. Construction the best—all iron and steel, highly finished. Materials handled but once direct from ground to hopper. The Force Feed insures accuracy in proportioning; the Revolving Drum, thoroughness in mixing. Changes in proportions made instantly. There are no expensive delays, because you have

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SPRINGS TO BREAK  
BELTS TO STRETCH  
WORM TO CLOG  
PADDLES TO WEAR

### HERCULES CONCRETE BLOCK MACHINES

Have given results for years. They are unlimited, and allow for producing all sizes and designs of building stone from 3 inches to 6 feet, long.



HERCULES CONCRETE BLOCK MACHINE

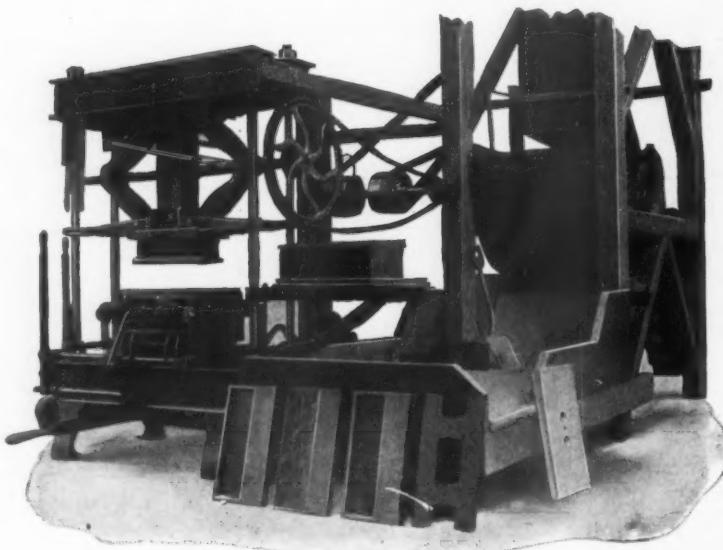
# PERFECTION AT LAST ATTAINED IN THE CONCRETE BLOCK INDUSTRY

THE PERFECTION POWER BLOCK MACHINE is the only Power Block Machine on the market, making a Hollow Concrete Building Block under Heavy Pressure and at Great Speed.

Machines have been in constant use since July 1st, 1905, with practically no expense for repairs.

The machine handles sand, gravel, crushed rock, slag and coloring materials perfectly.

All materials accurately measured, thoroughly mixed and uniformly pressed under 200,000 pounds pressure.



Makes 8, 9 and 12x8x24 inch blocks in five faces, and fractional and angle blocks.

Machine can be arranged to make Two Piece and Faced Blocks if desired.

All machines delivered, set up and put in operation to show a guaranteed capacity of 60 blocks (12x8x24 inch) per hour with 5 men.

Blocks perfectly cured in 24 hours in Vapor Curing Kilns of our own design.

Full details, catalog, testimonials, etc., sent upon request.

## THE PERFECTION BLOCK MACHINE CO.

KASOTA BUILDING :: MINNEAPOLIS, MINN.

### "The Svenson is Easily the Simplest and Fastest Mixer Ever Built"

Quit wasting money and making bad concrete with that "batch" machine. Don't fuss and lose time with complicated mixers. Let us tell you about this simple, strong machine.

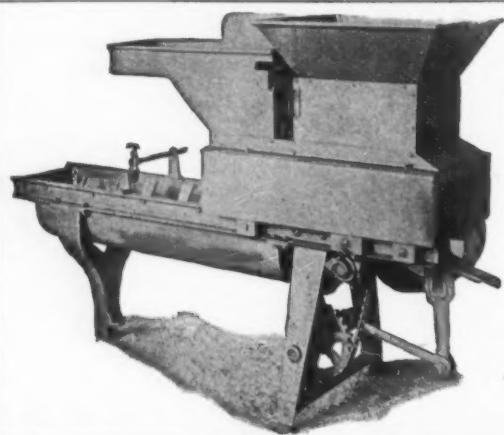
### The Svenson Concrete Mixer

Has only five moving parts, all on one shaft. It keeps going and it keeps the men going.

We want to tell you our ideas on proper mixing, for the "Svenson" mixes dry, then wet—the only scientific way. And it proportions the mix positively, just the way you set it.

Send for Catalogue.

**Svenson-Shuman Machine Co.,**  
602 Bessmer Bldg., PITTSBURGH, PA.



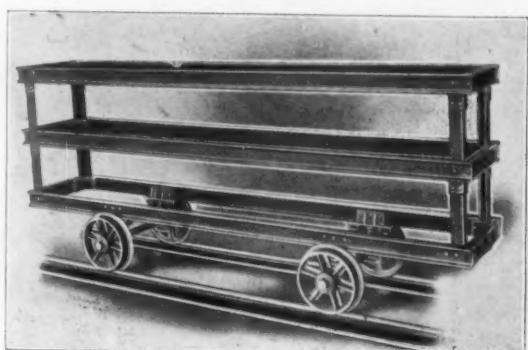
### "KENT" CONTINUOUS MIXER

"The Mixer that measures and Mixes"

"You fill the Hopper, the Mixer does the rest"

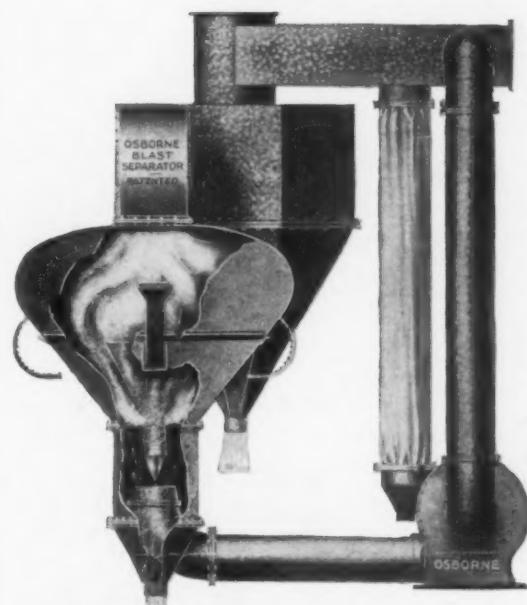
Simple, reliable, economical, durable and moderate in price

Write for Catalogue and Prices to  
**The Kent Machine Co.**  
306 N. Water St., Kent, O.



The "KENT" Block Cars, Transfer Cars, etc.

# THE OSBORNE PNEUMATIC BLAST SEPARATOR



## (TESTIMONIAL)

ALUMINUM COMPANY OF AMERICA, Pittsburg Pa.

H. C. PEPPER Superintendent.

East St. Louis, Ill., Oct. 1, 1907.

Mr. W. S. OSBORNE, Pres. Osborne Engineering-Mfg. Co., New York City.

Dear Sir:—Complying with your request for information in regard to the amount of fine bauxite which we are getting out of the Osborne Blast Separators recently installed here, beg to say that from tests made during the last few days we find an average amount of 16,000 lbs. per hour from each separator, material running about 90 to 100 mesh. These separators have a larger capacity than any we have ever had experience with and we are surprised at the large amount turned out.

Yours very truly, ALUMINUM COMPANY OF AMERICA  
C. B. FOX Asst. Superintendent.

The most efficient and economical separator ever placed on the market for separating fines from tailings, or for screening all classes of pulverulent material.

The degree of fineness of the material blown into the collector may be regulated with the utmost exactness, and the machine will handle a class of material as fine as 200 mesh.

Material containing 10 to 12 per cent. of moisture is handled without any trouble. These machines are particularly well suited to the handling of abrasive material, such as cement, phosphate rock, limestone, barites, etc.

Descriptive circular and price list on request.

**OSBORNE ENGINEERING-MANUFACTURING COMPANY**  
141 Broadway, New York

## “Brownhoist” Grab Bucket



**DON'T SHOVEL CRUSHED STONE BY HAND**

If you have an ordinary derrick driven by a single drum engine you are equipped to operate our single line grab bucket. This bucket is simply hooked onto the crane hook as shown herewith.

Our bucket on the derrick shown in the picture handled as high as 600 tons of crushed stone in ten hours.

WE CAN INTEREST YOU. WRITE US.

**The Brown Hoisting Machinery Co.**

Main Office and Works, CLEVELAND, O.

OUR NEW BUCKET CATALOGUE SENT FREE TO INTERESTED PARTIES.

Branch Offices, NEW YORK and PITTSBURG



## AUSTIN GYRATORY CRUSHER

The World's Leading Rock and Ore Breaker

The Only Automatically Lubricated Gyratory Crusher

8 Sizes—Capacities 40 to 2000 Tons.

Simple Construction (Saving Repairs)  
Economically Operated (Saving Expense)

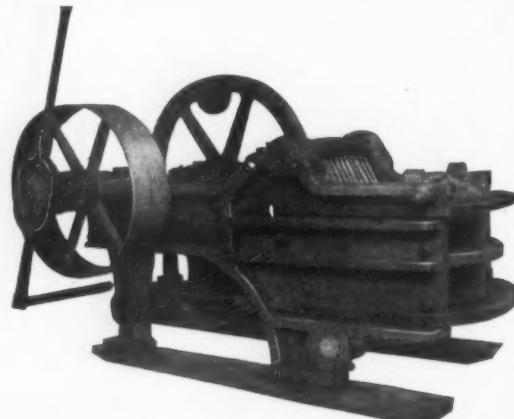
Correct Design (Saving Power)  
Result: EFFECTIVE, DURABLE AND MAXIMUM CAPACITY.

Plans and Specifications Submitted for Any Size Plant.

Write for Catalogue

AUSTIN MANUFACTURING CO., Chicago

New York Office, Park Row Building



## CRUSHERS

for soft rocks, burnt lime, etc.

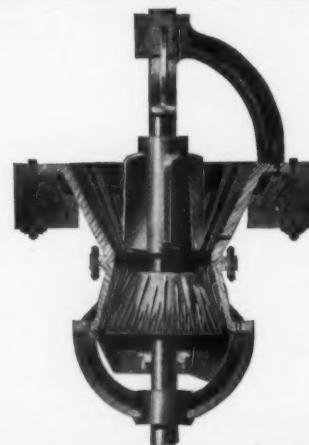
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We design modern Plaster Mills and make all necessary Machinery, including Kettles, Nippers, Crackers, Buhrs, Screens, Elevators, Shafting, etc.

SPECIAL CRUSHER-GRINDERS FOR LIME HYDRATORS

BUTTERWORTH & LOWE

17 Huron Street, GRAND RAPIDS, MICH.



## GET THE BEST Finest Line of Gypsum Machinery

MADE

### KETTLE CRUSHER NIPPERS

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MOGUL NIPPERS. OPEN DOOR POT CRUSHERS

Best Mills in the United States Have Them

DES MOINES MFG. & SUPPLY CO., Des Moines, Iowa, U. S. A.

## FARREL ORE AND ROCK CRUSHER

USED IN ALL PARTS OF THE WORLD—LARGE RECEIVING CAPACITY—SPECIALY DESIGNED AND CONSTRUCTED FOR HARDEST KIND OF WORK

COMPLETE CRUSHING PLANTS OUR SPECIALTY

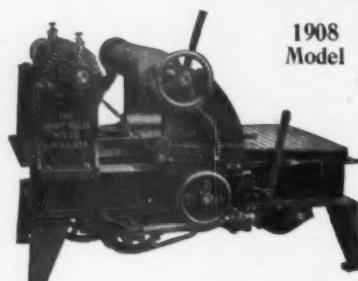
• SEND FOR CATALOGUE •

EARLE C. BACON, ENGINEER.

FARREL FOUNDRY & MACHINE CO. HAVE MEYER BUILDING, NEW YORK

## The Shuart-Fuller Improved Fiber Machine

1908  
Model



Has an automatic, proportional, increasing feed, which keeps grade of fiber uniform from start to finish, and holds machine to highest possible rate of production for the grade of fiber and number of saws. Does not begin with fiber and end with dust, nor fall off in rate of production on each log, from 40 to 80 per cent as do the ordinary non-increasing feed machines. Works logs up to 24x24 inches. No royalty string attached to sale. Pay no attention to misrepresentations of our competitors, but write for descriptive circular and terms to

The Shuart-Fuller Mfg. Co.

ELYRIA, OHIO

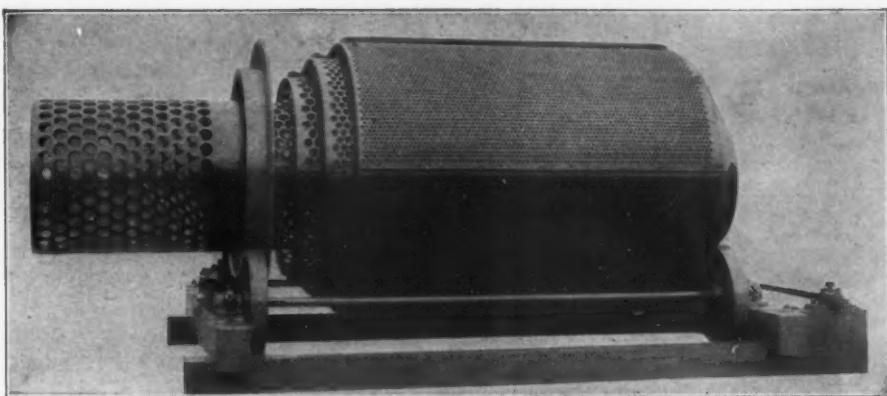
St. Louis, June 17, 1907.

THE SHUART-FULLER CO., Elyria, Ohio.  
Gentlemen:—We are just in receipt of advice from our New Mexico plant wherein they state that the Wood Fiber Machine recently shipped by you is doing all that we have asked of it and running very fine

ACME CEMENT PLASTER CO.

By Jas. R. Dougan, Secy.

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The advantages of these screens are described in detail in a circular which WE WILL MAIL TO ANY ADDRESS. Mr. John O'Laughlin, the inventor, has designed many notable improvements in rock-drilling, quarrying, crushing and screening machinery, and uses these improved screens in his own crushing plants, which others have declared "to be the most perfect in existence in every detail." The O'Laughlin Screen is an important factor in the most modern and perfect stone-crushing plant.

made solely by Johnston & Chapman is the

## ONLY SCREEN

on the market for wide-awake quarry-men and miners, who want to separate crushed granite, limestone or other minerals, gravel, sand, coal or coke. It will soon earn its cost in saving of repairs, and maintenance, and reduced power, and will do more and cleaner work than any other cylindrical screen of like area. No one can afford to keep old traps in use when the O'Laughlin is installed

## NOW

will from the moment it starts give a better and larger product, and a big interest on your investment in continuous saving in cost of repairs, renewals, and power. For particulars, address:

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1333 to 1345 Carroll Avenue, CHICAGO, ILLINOIS

Perforators of Sheet Metals, Flat, Cylindrical, and Conical Perforated Screen Plates for Quarries, Mines, Reduction Works, Mills and all Industrial Purposes.



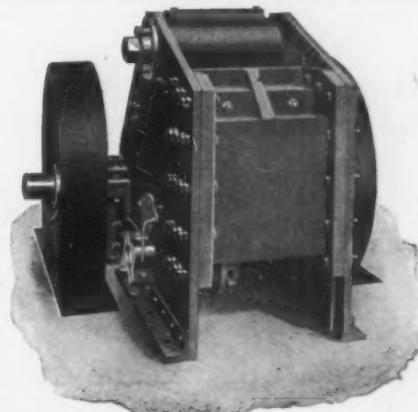
ALL STEEL END DUMP QUARRY CAR.

We build these cars in capacities ranging from 1 yard to 2 yards, any gauge desired.

If you are in the market for any kind of CAR, STONE SKIP, ELEVATOR, REVOLVING SCREEN let us know your wants; we can fill them.

Our catalogue No. 10-R shows a few of our supplies.

**H. B. Sackett Screen & Chute Co.**  
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One-half the Weight, and Twice the Strength.

One-half the Speed, and More Capacity.

Transportation, Foundation, Carting and Setting Up Costs One-half. Costs Less to Buy and are Cheaper to Operate

### Than Any Other Crushers

COARSE CRUSHERS for 2-inch Crushing

Outputs 5 to 150 Tons per Hour

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Outputs 2 to 35 Tons per Hour

FINE CRUSHERS for One-half-inch Crushing

Outputs One-half to 15 Tons per Hour

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New York Pittsburgh St. Louis Chicago

## RAW MATERIAL GRINDERS

### New Williams Universal



FOR TUBE MILL FEED

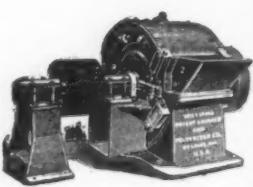
800 BARRELS 22 HOURS  
95 PER CENT THROUGH 20 MESH  
HORSE POWER 40 TO 50

WE ALSO GRIND  
GYPSUM, LIME, COAL AND SHALE

### Vulcanite Grinder

FOR ROLLER MILL FEED  
TAKES MATERIAL FROM  
GYRATORY, DIRECT

CAPACITY 20 TONS HOUR  
FINENESS  $\frac{1}{2}$  IN.,  $\frac{1}{4}$  IN. AND  $\frac{1}{8}$  IN.  
HORSE POWER 40 TO 45  
1,300 MILLS NOW IN USE



WRITE FOR BULLETIN NO. 12

WORKS:  
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SALES OFFICE:  
OLD COLONY BLDG.  
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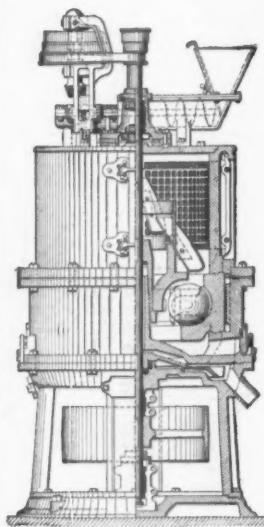
Williams Pat. Crusher & Pulverizer Co.

Seattle, Wash. 456 Empire Bldg.

Los Angeles, Cal., 1531 Maines Ave.

## Fuller - Lehigh Pulverizer Mill

The Best Pulverizing Mill  
Manufactured



Exhaustive tests in all departments, in competition with the most approved grinding machines in use, have demonstrated the superiority of our machine.

### OUR CLAIMS:

Greater Output  
Better Fineness  
Fewer Repairs  
Dustless

#### Few extracts from letters received from users

"With the four we are now ordering we will have in use 16 Fuller Mills in all, and I think you can hope to get orders from us within the very near future for quite as many more."

"We have to say for your Fuller Mill that it is unqualifiedly the best grinding device we have ever tried on our lime rock and eminently satisfactory to us."

"We are pulverizing with one Ball Mill and four Fuller Mills sufficient raw material to produce nearly 1200 barrels of clinkers per day, which record I believe can not be approached by any other mill on the market."

If interested, write us for further information

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Kansas City, Mo., Scarritt Building

Europe: 40 Jungfernstieg, Hamburg, Germany.

## Modern Grinding Machinery

### KOMINUTERS for Granulating TUBEMILLS for Pulverizing

Davidson Tubemill especially  
adapted for Sand-Lime  
Brick Work

Silex Linings for Tubemills  
Best Quality Dana Flint Pebbles  
Forged Steel Balls

**F. L. SMIDTH & CO.**

ENGINEERS

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NEW YORK

## All Steel Contains Manganese

There is no copyright on the term "Manganese Steel," therefore, any Steel may be called Manganese Steel

TISCO Manganese Steel is a patented product, and is the standard. The trade-mark "TISCO" is copyrighted. Therefore, any other steel that may be offered as Manganese Steel, will be an imitation depending on the reputation of TISCO Manganese Steel for its sale.

**Taylor Iron & Steel Company**

High Bridge, N. J.



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is the accepted standard of highest efficiency, economical operation, positive results and general all around serviceability in hydrating machinery  
There are more of them in use than all others put together

They have proven their merit under all conditions

We will furnish full information, booklets and interesting data on your request

*“We like to answer questions”*

**CLYDE IRON WORKS**

Manufacturers

**DULUTH, MINN.**

Tell 'em you saw it in **ROCK PRODUCTS**

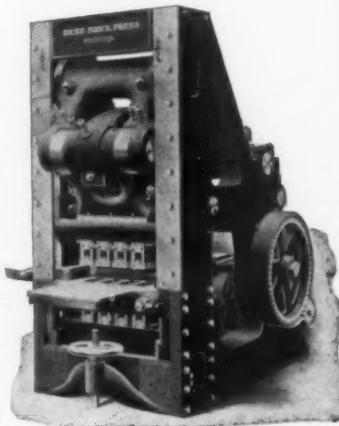
The "Berg Press" is the Highest Development in the Art of Brick Making Machinery, so Pronounced by the United States Government

Highest Grade  
**BRICK MACHINERY**  
 and Equipment

FOR  
 SAND-LIME, SAND-CEMENT  
 FIRE-BRICK, CLAY and SHALE

Each system we guarantee are unequalled and further advanced than any others

**Cement Machinery  
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BERG FOUR MOLD PRESS.  
 Highest Efficiency Guaranteed.

**The Berg Machinery Manufacturing Co., Ltd.**  
 Toronto, Ont., Canada

## THE KENT PULVERIZER

Takes one inch feed. Grinds to any fineness  
 from 10 to 200 mesh.

### GRINDS PER HOUR WITH LESS THAN 25 H. P.

CEMENT CLINKER,	40 bbls. to 98%	20 Mesh.
CEMENT CLINKER,	12 " " 96%	100 "
LIMESTONE,	12 " " 83%	200 "
LIME,	4 " " " 100	"
ROSENDALE CEMENT,	43 bbls. " 90%	50 "
QUARTZ TRAP-ROCK,	4 tons " " 40	"

You can easily figure from this what a Kent Mill would save for you.

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NEWAYGO PORTLAND CEMENT CO.,

Newaygo, Mich.

Says:—Four KENT MILLS are driven by one 75 H. P. motor

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Tell 'em you saw it in ROCK PRODUCTS.

## THE OPERA HOUSE—PHILADELPHIA, PA.



SHOWN WITH PORCHES NOT QUITE COMPLETED.

Thanks to the enterprise of Oscar Hammerstein, Philadelphia has as good an Opera House as can be found any where in the world.

The beautiful building is faced with 500,000 White Silicate Brick made by our **division method** (patented).

With 240 feet frontage on Broad St., it extends 160 feet on Poplar St. The greatest height except the stage is 160 feet, and seats 4,100 people. Our White Silicate Brick were also used inside the building on stairways and back wall of stage.

How would you like to produce brick good enough for facing buildings like this and make them as cheap as common brick can be made in any other way out of sand and lime?

A factory operating under our patent, means the best brick possible to produce from sand and lime at a lower cost than others can reach. As our brick bring higher prices than other kinds, your profit is increased both ways, (lower cost to make, higher price for product).

Our brick have beautiful faces and edges and satisfy the most critical architects and contractors.

Write for a letter of introduction to the owners of factories using our process, and then go and see for yourself.

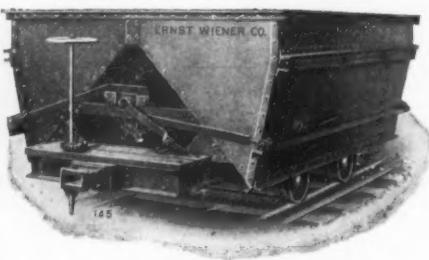
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## International Sand-Lime Brick and Machinery Co.

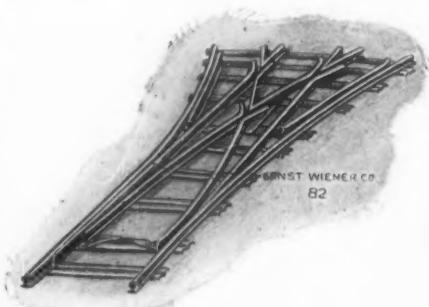
Engineers and Contractors for Silicate Brick Factories

**Main Office : : 90 WEST STREET, NEW YORK**

# Industrial Railways



Gable Bottom Car for Handling Heavy Material. Catalog 33.



Portable Switches in Stock. See catalog 33.

are the most efficient means of handling your cement and concrete—*Because*

One man can do more work with an Industrial Car on a track than he can with a wheel barrow. More work can be done collectively—time and labor being reduced.

## LARGE STOCK

of Industrial Cars and Track always on hand. We also build special cars and track to meet individual requirements and can name attractive prices—Write for these and our booklet No. 17.

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**RAILROAD SPECIALISTS FOR ALL INDUSTRIES.**  
**ERNST WIENER COMPANY.**

200 Fulton Street, New York, N. Y.

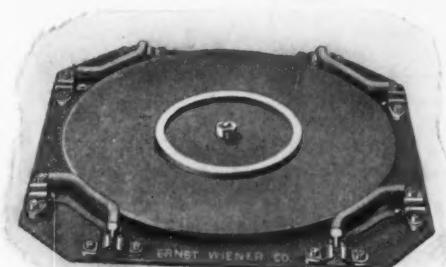
DENVER, COLO.  
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Light Wrought Iron Turntable. Catalog 33.



Double Side Rocker Dump Car. This Car has an absolute clean Dump. Catalog 33.

# RETARDER Wood Fiber

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**PORT CLINTON, OHIO**

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Duplicate power plant (electric and steam power) installed so as to preclude any possibility of shut down and consequent shut down of mixers who depend upon us for their supply of Retarder. We have a capacity large enough to supply every retarder user in the U. S. and Canada, and some to spare for Europe. Our mills are fireproof in every particular. Write us for prices and information.

**THE OHIO and BINNS RETARDER CO.**  
**PORT CLINTON, OHIO**

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MANUFACTURERS OF GYPSUM PRODUCTS

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WASHINGTON, D.C.CITY OFFICE  
BUILDERS' EXCHANGE

PHILADELPHIA Dec 14, 1908.

The Francis Publishing Co.,  
355 Dearborn St.,  
Chicago, Ill.

Gentlemen:

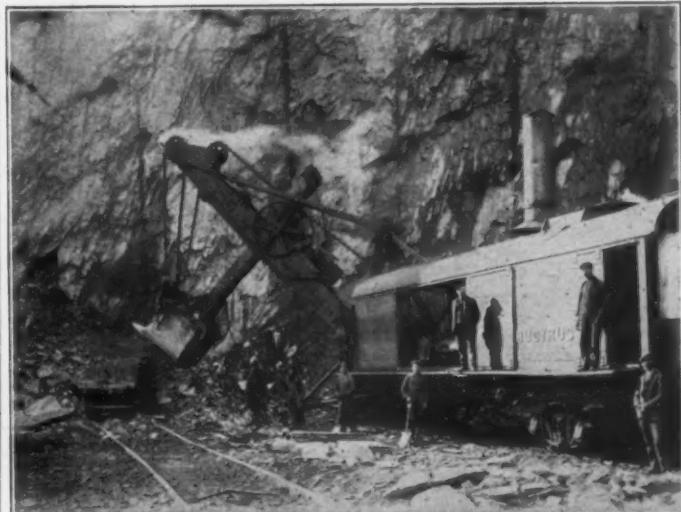
We desire to congratulate you upon  
the world-wide circulation of "Rock Products"  
and the great number of influential subscribers  
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Since we started to advertise our process  
for manufacturing calcined plaster &c we have  
received inquiries from all parts of the U. S.  
and especially foreign countries, and have made  
some very valuable connections.

The results in the past certainly promise  
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Yours very truly,  
EASTWICK PLASTER CO.

*J.W. Eastwick*  
Pres.



95-B Bucyrus Steam Shovel  
in  
CEMENT ROCK

We Build Steam Shovels for  
Quarry Stripping, Cement Mining  
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**THE BUCYRUS CO.**  
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Strong  
Uniform  
Fine Ground

RETARDER

We are the oldest Retarder firm  
in the United States, and above  
is our motto. New fire-proof  
plant and prompt service.

FREE SAMPLE ON REQUEST

**Chemical Stucco Retarder Co.**

WEBSTER CITY, IOWA.  
INCORPORATED 1895

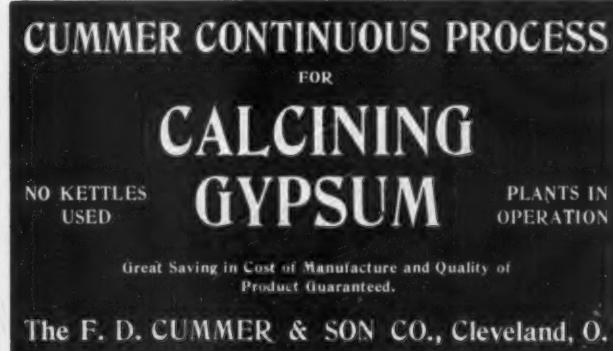
# STUCCO—Lycoming Calcining Company

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Enlarged, Re-equipped, Better and Larger than ever. Capacity, 250 tons per day. First Stucco mill built at Garbutt. Now located on two R. R. systems. Shipping facilities unsurpassed. Ten wall plaster Companies now using our Stucco exclusively, under contract. Write for price.

MAIN OFFICE,

WILLIAMSPORT, PENNA.



**BEST BROS.**  
Keene's Cement

## RETARDER UNIFORM AND STRONG

Suitable for all kinds of Stucco and Plaster. Write for sample.

Pennsylvania Retarder Co.  
Mosgrove, Pennsylvania

## PLAIN AND ORNAMENTAL PLASTERING

EQUAL IN QUALITY TO FOREIGN MAKES  
MILLS AND QUARRIES:  
MEDICINE LODGE, KANSAS  
SUN CITY, KANSAS  
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## SPECIAL MACHINERY AND FORMULAS

FOR THE MANUFACTURE OF

WOOD FIBRE PLASTER, FIRE PROOFING  
AND KINDRED PRODUCTS

The Ohio Fibre Machinery Co.

We furnish the latest improved FIBRE MACHINE, (fully patented) also FORMULAS, on a reasonable proposition. The strongest companies and oldest manufacturers are operating under my contracts.  
WRITE FOR TERRITORY

J. W. VOGLESONG,  
GENERAL MANAGER

Elyria, Ohio

## KING'S WINDSOR CEMENT FOR PLASTERING WALLS AND CEILINGS

Buffalo Branch, CHAS. C. CALKINS, Manager  
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Elastic in its nature, can be applied with 25 per cent less labor and has 12½ per cent more covering capacity than any other similar material

**J. B. KING & CO., No. 1 Broadway, New York**

**BUILDERS' SUPPLY  
DEALERS CAN**

**MAKE TWO PROFITS!**



## Both Manufacture and Sell Rader Patented Plaster Board

If you are selling plaster boards you are making one profit. Why not manufacture them and make both manufacturers' and dealers' profits? With

### RADER'S PATENTED MOULDING TABLES

you can manufacture the best plaster boards on the market and at less cost than the largest manufacturers, enabling you to compete with any brand, both in quality and price.

### PLASTER BOARDS

are rapidly displacing all kinds of lath, being fire and vermin proof, lower in price, more rapid and economical in construction, stronger and more durable.

### RADER'S PATENTED PLASTER BOARDS

made only with Rader's Patented Moulding Tables are the most satisfactory now on the market. Cannot be broken as can others, thereby eliminating

all risk of loss by breakage in transportation or general rough handling. They have to be sawed in two. Each side of the board is adapted to different purposes thus having a double advantage over any other make. Three plants are now in operation to meet a growing demand.

A COMPLETE PLANT CAN BE INSTALLED AT A SMALL COST as the Rader apparatus is licensed at a very low price and only a very small space is required for its operation. The device makes boards from  $\frac{1}{4}$  to 1 inch in thickness.

### TERRITORY AND RIGHTS CAN BE LICENSED

with the exception of the New England and Middle Atlantic states which have already been secured by one of the largest plaster manufacturing companies in the East.

Write us for Samples and Further Information.

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Send for Catalog 25

THE GENERAL CRUSHED STONE CO.,  
So. Bethlehem, Pennsylvania,  
have been using one of our Common Sense Elevators for six years—  
capacity 400 tons an hour.

THE C. O. BARTLETT & SNOW CO. CLEVELAND, OHIO.

CROWING FOR  
PLYMOUTH  
CEMENT  
AND  
WOOD FIBER  
PLASTER

The Brand that's Made from Pure  
Gypsum Rock.

WRITE US FOR PRICES AND  
ADVERTISING MATTER.

Plymouth Gypsum Co.  
Fort Dodge, Iowa

## Plaster! Plaster!

**Iowa Hard Plaster Co.**

HARD BY NAME. HARD BY NATURE.  
HARD TO BEAT. NOT HARD TO GET.

**Iowa Hard Plaster Co.** FT. DODGE  
IOWA....

THE  
“INDEPENDENT”  
BRAND

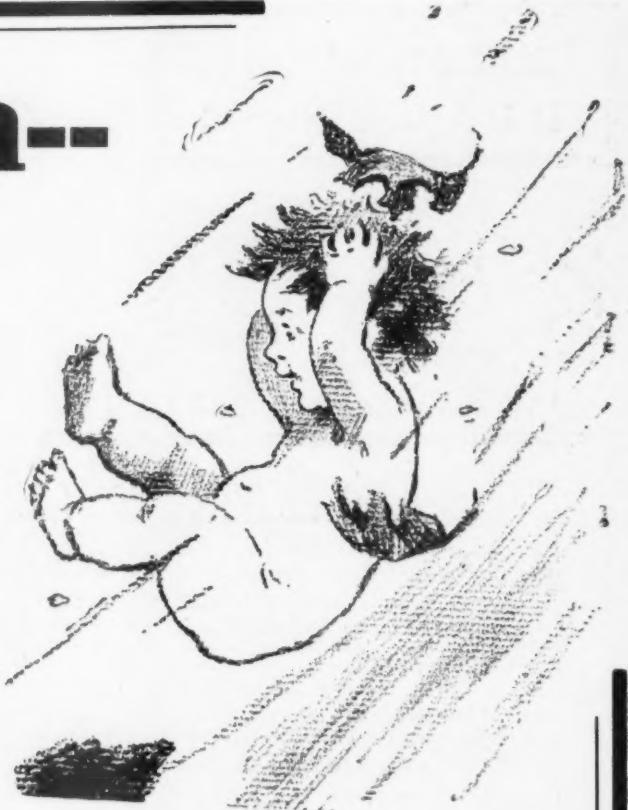
Is Manufactured Only by  
**American Independent Gypsum Co.**  
Fort Dodge, Iowa

UP-TO-THE-MINUTE PLASTER MAKERS

**Works Fine. Try It  
You WILL Like It**

# Whoa-- January!

Whoa, January! Back up! Not so fast--there are still some Material Dealers who want to carry out their New Year Resolutions, or to make them now, before you fly away--they want to get into the band wagon by taking hold of the really best and most reliable plaster commodities; chiefly the popular, time tested, fast selling brands of



## U. S. G. Hard Plaster

Made from Pure Rock Gypsum

These Dealers want the Sterling Merit, the Dependability, the Gratifying Uniformity, the General Satisfaction, the Repeat Orders, the Steady Sales, the New Trade, the Increased Business, the Comfortable Profits that other dealers enjoy who handle the U. S. G. Brands.

And they want to enjoy that Cooperation, that Prompt Attention, that Advertising Assistance, that "Square Deal" Policy, that *U. S. G. Superior Service* that they have been hearing and reading about. They want to *try it out!*

Whoa, January! Don't fly away entirely until these good Dealers have had a chance to Get Acquainted with the U. S. G. Co., its Superior Goods and its Superior Service, by writing to our nearest office for Information, Literature, Quotations.

*Well, write!* And do it Now, while the year is young.

# United States Gypsum Company

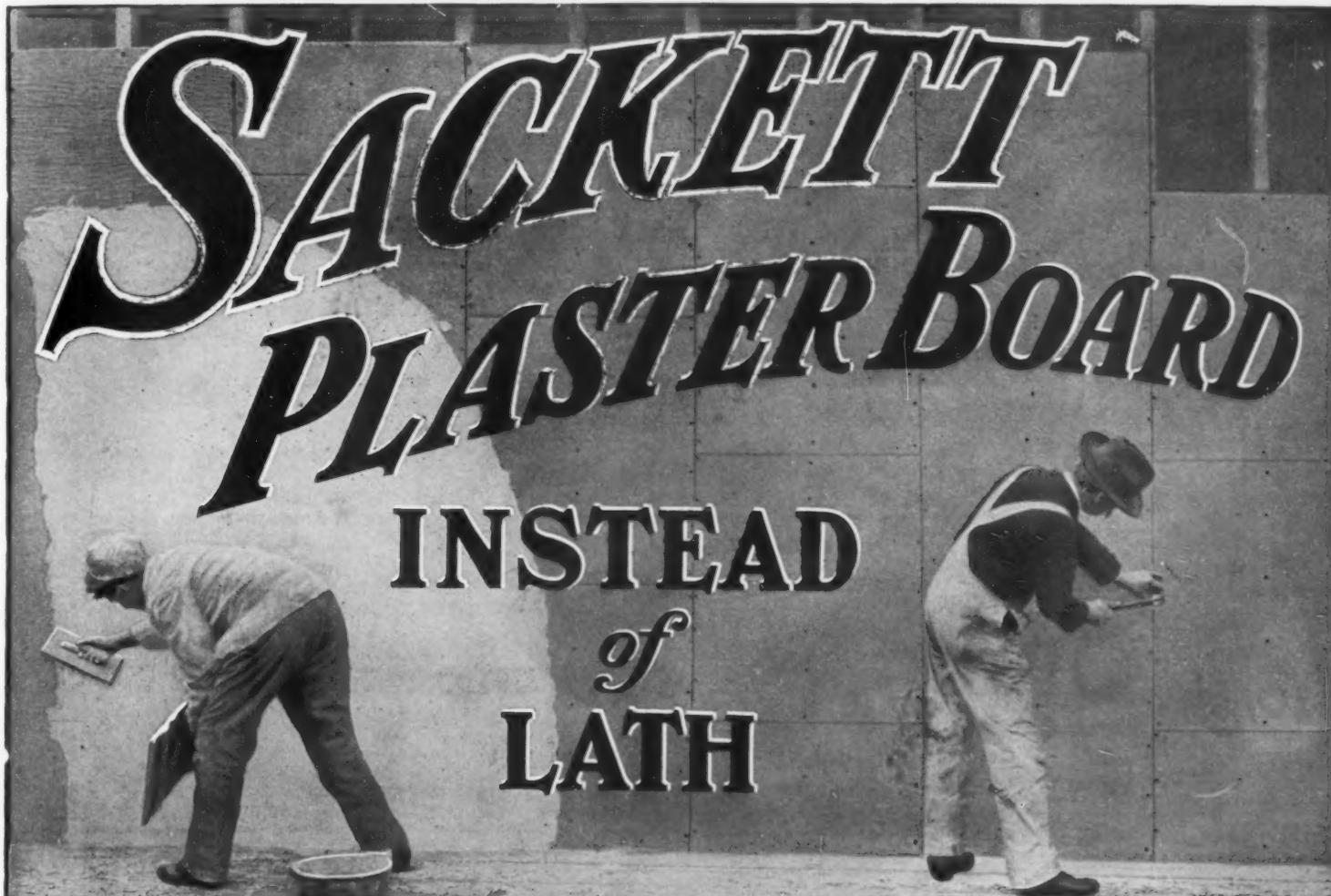
NEW YORK

CLEVELAND

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## FIREPROOF AND ECONOMICAL

SACKETT PLASTER BOARDS have been successfully used since 1891 in thousands of buildings of all classes, including small cottages, prominent hotels, costly residences, churches and theaters.

Walls and ceilings of Sackett Plaster Boards will be DRY AND READY IN HALF THE TIME required when lath is used, as less than half the quantity of water is needed.

Less moisture means less damage from warped and twisted trim and woodwork.

Their superior insulating qualities make warmer houses with less fuel. The first cost is no more than good work on wood lath, and less than on metal lath.

Sackett Plaster Board is an efficient and economical FIREPROOFING not only for walls but between floors, and for protecting exposed wooden surfaces in mills, warehouses and industrial structures. It is also used extensively instead of lumber as outside sheathing under weather boards.

Sackett Plaster Board comes in sheets or slabs 32x36 inches ready to be nailed direct to the studding, furring or beams.

For all kinds of Buildings its use is ideal. It speeds construction; it lessens building cost; it reduces fixed charges for insurance; it makes fire resisting walls and ceilings, and gives absolute satisfaction.

Carried in stock by up-to-date building material dealers everywhere.

Booklet showing buildings all over the country where these boards have been successfully used with SAMPLES and name of nearest dealer furnished on application to any of the following General Distributors.

UNITED STATES GYPSUM CO. | GRAND RAPIDS PLASTER CO. | SACKETT PLASTER BOARD CO.  
CHICAGO CLEVELAND MINNEAPOLIS GRAND RAPIDS, MICH 17 BATTERY PLACE, NEW YORK CITY

HOTEL GRISWOLD, NEW LONDON—14½ acres of Sackett Plaster Board used in its construction

R. W. GIBSON, ARCHITECT.



Tell 'em you saw it in ROCK PRODUCTS.

# NIAGARA GYPSUM CO.

MANUFACTURERS OF

## GYPSUM PRODUCTS

**MINES and MILLS** **GENERAL OFFICES**  
Oakfield, N.Y. Buffalo, N.Y.

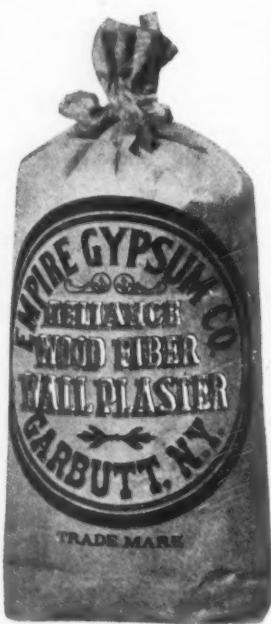
Our electrically equipped mines and mills are now in operation with a capacity of 300 tons per day, and we assure you of prompt service.



We Manufacture Stucco,  
Neat Cement Plaster, Ready

Finish, Wood Fibre Plaster, Fin-  
ishing Plaster, Sanded Wall Plaster,  
Crushed Rock, Land Plaster.

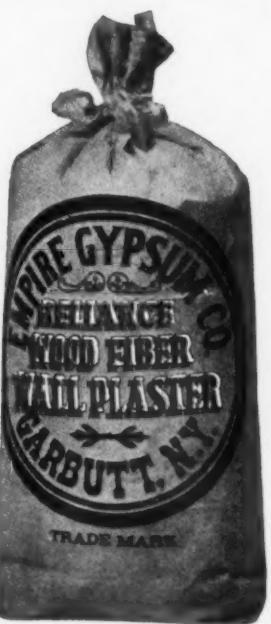
# Quality Strength Capacity



MODERN PLASTER



MODERATE PRICE



Wall of Fame

Tell 'em you saw it in ROCK PRODUCTS.

# HYDRATED LIME

## Bulletin 27

### To Dealers and Contractors:

Hydrated Lime puts your lime business on a profitable basis, while with lump lime you have a very indefinite proposition. Hydrated Lime does not deteriorate with age; it keeps indefinitely; it can be used for any purpose for which lump lime is used, and opens up many other uses which create new business for the dealer. It is the best for disinfectant purposes, while air-slacked lime is worthless. It is the ideal lime for white wash and plaster. As an insecticide it has no equal in making the famous Bordeaux mixture and other sprays for fruit trees and plants generally, and when used in a dry powder form drives away or kills bugs, worms and insects almost immediately. It also makes the famous sheep dip which is so universally used for dipping sheep for scab. It is also extensively used for fertilizing either alone or with other fertilizers.

It may be mixed with Portland Cement for general purposes in proper proportion to make a better concrete, concrete block, or cement mortar for laying brick. It is mixed with Portland Cement in the manufacture of cement blocks and when so used the block is less liable to absorb moisture, which is one of the greatest drawbacks in block manufacture at present.

### SNOW DRIFT

Hydrated Lime requires no more slaking, thus saving you at least 25c. per barrel. It enables you to complete a job that for quality and appearance will be unsurpassed and cannot be equaled by using ordinary lump lime.

It does away with the old expensive and crude way of slaking lime and is always ready for immediate use. All that is necessary is an ordinary box for mixing the Hydrate with the water and sand. For plastering or white coat work, this work can be done inside the building. In a mixture of Plaster of Paris, it is gauged up with about half the amount of plaster necessary with lump lime putty, it retards the setting, enabling the plasterer to use the trowel to better advantage. Mix the material inside the building and leave the street open for traffic.

Hydrated Lime is always ready for a patch or hurry up job. It gives the maximum of convenience and economy, and the minimum of annoyance and expense.

Our lime is burned in the latest up-to-date kilns, with gas which we produce ourselves, and have under such perfect control that we do away with the old trouble of over-burning, thus producing a much superior and uniform article than the lime burned the old way.

From the kiln, the lime is carried by a belt conveyor to a large crusher and from there it is carried to a KRITZER CONTINUOUS HYDRATOR, which is a series of drums. The crushed lime passes into

the hydrator where a correct amount of water is added, which together with its own steam and heat does the hydrating or slaking, and the result is that after it has traveled through the drums without wasting any of its gases, which is bound to occur while slaking in open air, it comes out at the bottom in a mixture of finely powdered Hydrated Lime.

No danger of burning it, like is often done when slaking by hand, thus making the lime work short. The lime being slaked by machinery is bound to make the slaking absolutely accurate and perfect. From the Hydrator it is then conveyed to a large separator which delivers only the very finest particles of lime leaving the tailings and all foreign matter behind, and the separated pure Hydrated Lime is caught in bins where it is then ready for sacking.

Ninety seven to ninety-nine per cent of the Hydrated Lime will pass through a 100 mesh screen, which means 10,000 openings to the square inch, and nothing but the best burnt and properly hydrated lime can be reduced to such an impalpable powder. Ninety-two per cent will pass a 200 mesh test screen.

In the sacking department, we use a Valve Bagging Machine which does the work, automatically weighing and sacking the Hydrate. The sacks are of the very strongest paper and are sealed at both ends. No strings to come loose and cause waste of material. Each sack of Hydrated Lime weighs exactly 40 lbs. and you get 200 lbs. to a barrel by actual weight while a barrel of lump lime will not average over 160 lbs. of lime.

The lime being put up in 40 lb. bags makes it a very convenient package for handling and shipping, as well as an economical package for retail purposes. You can sell it to every family for sanitary lime, because it is pure and full strength, and in a convenient package to handle. Every farmer will use it for fertilizer, insect destroyer and sheep dip. Every retail grocer will handle it for these purposes and you can sell it to him with a handsome profit for yourself and still leave him a good profit when he sells it at 40c. a sack. For local shipments we put up 100-lb. cloth bags.

It is absolutely free from danger of fire, therefore does not affect your insurance, while lump lime is dangerous and increases your fire risk and insurance rate.

Remember that Hydrated Lime is no experiment but is used in place of lump lime all over the Northern and Eastern States.

We turn out four tons of perfectly hydrated lime per hour, the capacity of THE KRITZER CONTINUOUS HYDRATOR. This is one ton more than the machinery was guaranteed to do, and we do this day after day, not for an hour or two.

Get busy and up to date and give HYDRATED LIME a trial. We are ready to answer all questions pertaining to this product.

## DITTLINGER LIME CO. NEW BRAUNFELS, TEXAS

We are installing commercially successful hydrating plants

THE KRITZER CO., CHICAGO

# TRIUMPHANT

THE ACME OF PERFECTION AT LAST

## The Improved Peerless One Man Cement Brick Machine

Equipped with a new tamping device which tamps ten bricks in the machine at one operation, making 12,000 perfectly formed bricks in ten hours.

The most successful and most easily operated one man brick machine ever made.

The hit of the Cleveland Convention, where great crowds marvelled at the ease with which it operated.



Showing Peerless Brick Machine Open with the Load Standing on the Pallet,  
Ready to Carry Away or Racking.



Showing Peerless Brick Machine with Tampers Raised.

**The Great Superiority of**  
Cement Brick for all general building  
purposes over the old fashioned clay  
product is now thoroughly recognized  
by architects and builders everywhere.

**The Peerless Brick Machine**  
is the greatest invention in the industry. Simple, strong, durable, easily  
operated, it combines all the advan-  
tages of every other machine at the  
smallest cost. : : Write at once.

**Peerless Brick Machine Co.**  
Minneapolis, Minn.

Tell 'em you saw it in **ROCK PRODUCTS**.



## THE WOODVILLE WHITE LIME CO.

**Manufacturers and Wholesalers of BUILDERS' SUPPLIES**

**Main Offices:**

**Branch Offices:**

**Toledo, Ohio**

**Pittsburg and Buffalo**

# Safe Homes Made Cheap

Concrete Structural Tile for the Foundation, Walls, Partitions, Floors and Roof, Lumber entirely eliminated, except the trim, as taste may suggest

This house is one of a hundred that have been built at no greater cost than wooden construction and much cheaper than brick and wood in combination.

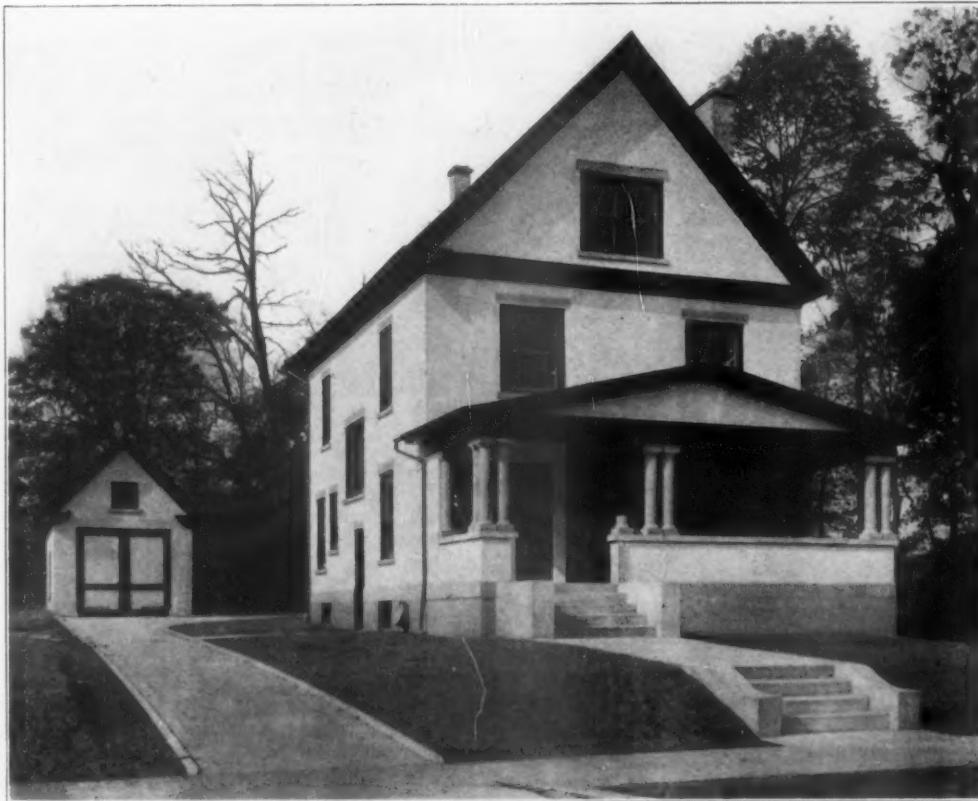
Safety from fire is paramount in the building of a home. The sanitary advantages of concrete will save life and doctor's bills even if there were no fire risk.

The latitude for artistic expression in the trim and finishing of tile constructed homes is limited only by the genius of the designer and the desire of the builder.

The stucco plastered surface of concrete tile walls constitutes a revolution in building materials for permanent solidity without cracking and economical application.

Such qualities attach to Concrete Structural Tile alone.

This house, including the garage and all concrete walks, steps, etc., shown in illustration, was built for \$4,000, including all the trimmings and painting—a finished key job. It is sumptuously finished inside with hardwood, plate glass windows and doors, with slate roof and six massive pieces of built-in furniture of elegant design, with plate mirrors, etc.



## NO END OF USES FOR CONCRETE STRUCTURAL TILE

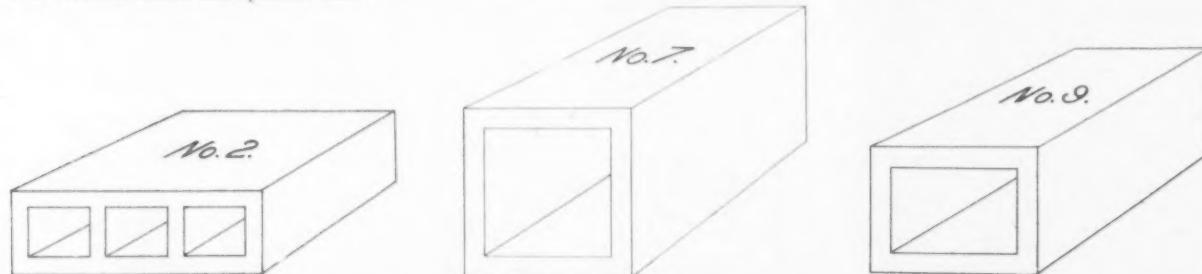
The simplicity of construction with concrete structural tile appeals to the practical workman on account of its lightness and convenience of perfect shapes and mortar-carrying properties. The contractor gets more finished wall per man and the owner finds the money in his pocket. For instance, the residence illustrated above was built of three simple shapes as follows:

No. 2 tile measures 4"x12"x12" and was used for all the partitions inside, and for all floor spans with reinforced concrete ribs.

No. 7 tile measures 8"x8"x16", was used for the foundation and cellar walls, and all outside bearing walls.

No. 9 tile measures 6"x8"x16", and was used for fitting purposes to match out the openings for doors and windows.

The outside plaster consists of a coat of cement mortar applied directly to the surface of the tile and the finishing coat was made of a mixture of Portland cement and hydrated lime.



Supply dealers recognize these shapes as standard goods that will sell readily in any market.

**Send for catalogue, or call at our Booth at the Chicago Cement Show**

**CONCRETE STONE & SAND COMPANY**  
Youngstown, Ohio

# The 2 Latest Miracles

Will be in Operation at the Cement Shows

**DES MOINES**

(Feb. 2 to 4)

**CHICAGO**

(Feb. 18 to 24)

**MINNEAPOLIS**

(March 3 to 5)

Make 3,000 to 5,000 Cement tile per day, each tile perfect in quality, uniform in density from end to end, the continuous mixer supplying the material.

## MIRACLE NO. 1

Every Cement Worker Ought to see

The Packer That  
—Packs—  
Uniformly—End to End

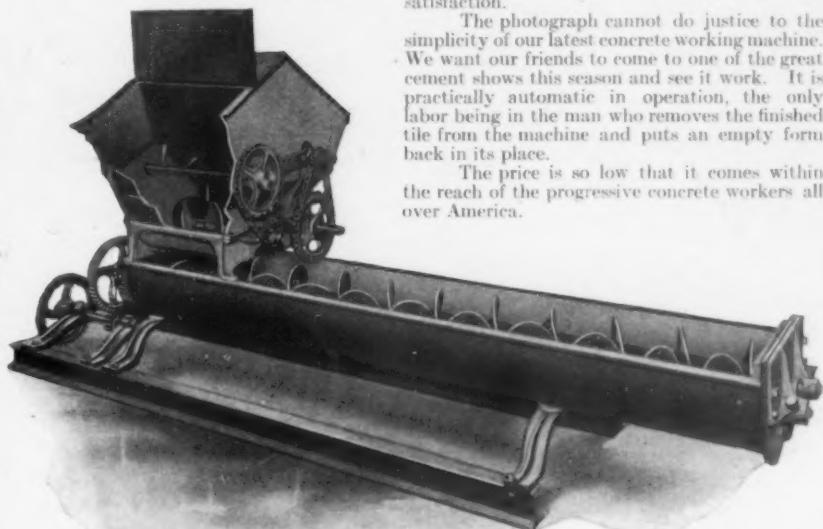
When we did the pioneer work introducing Miracle Cement Tile Molds we set out to give the Cement trade a machine that would do the work as well as it can be done by hand, with a saving of labor cost.

The important problem in the design of a perfect tile machine is in the packing device which does the work of hand tamping when using molds. Miracle machinery is never sold until it has successfully passed the tests of use. Our Baldwin Tile Machine is no experiment. The product could not be made better by the most expert cement worker with hand tamping in molds.

It packs the cement solid; and operates easily and quickly; giving uniform satisfaction.

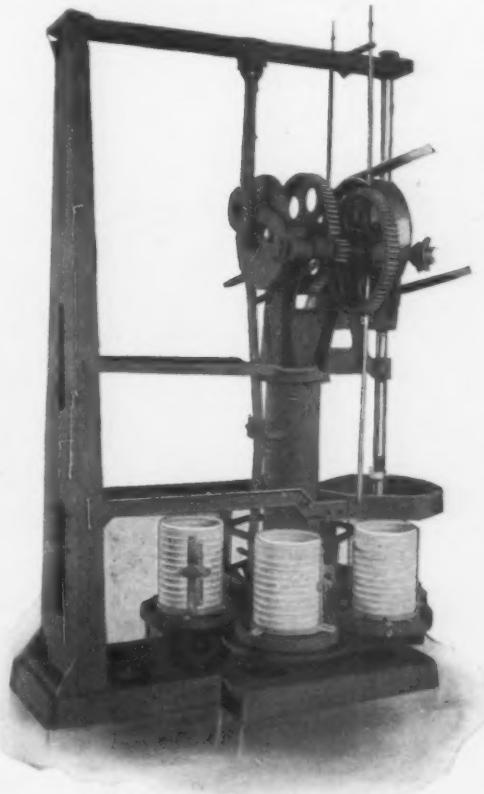
The photograph cannot do justice to the simplicity of our latest concrete working machine. We want our friends to come to one of the great cement shows this season and see it work. It is practically automatic in operation, the only labor being in the man who removes the finished tile from the machine and puts an empty form back in its place.

The price is so low that it comes within the reach of the progressive concrete workers all over America.



Miracle Continuous Mixer

You may not be open to consider either of these latest Miracles in your business, but whatever you want in Concrete working machinery—remember we have it. We like to call ourselves "the department store of the concrete industry"—we sell everything from a 25c tool to a Mastodon mixer—everything you can think of—all produced by practical concrete workers—one of the oldest concerns in the industry in America.



Our Baldwin Tile Machine

## MIRACLE No. 2

The illustration of the Miracle Continuous Mixer herewith avoids the necessity for a lengthy description. Two essential features are secured by this machine, without which no mixer can be called a success, no matter how much it may handle. This continuous mixer preserves the proportions of cement and aggregate as accurately as a batch mixer, and it mixes the constituents perfectly. It will turn out in absolutely prime condition a mix of 50 cubic yards in a day of 10 hours, running only 40 revolutions per minute, and it can be speeded up so as to handle satisfactorily over 75 cubic yards per day.

The Miracle Continuous Mixer is operated by a 3 H. P. self-contained gasoline engine, which under the severest tests of actual use has been found amply effective. The engine is guaranteed. Mixers may be bought with or without power, and either on skids or on trucks, as preferred. Full description of the Miracle Continuous in a new booklet, just out. Send for it.

# Miracle Pressed Stone Co.

LARGEST MANUFACTURERS OF CONCRETE MACHINERY IN THE WORLD

Minneapolis, U. S. A.

## BUILT FOR BUSINESS

### Champion Steel Rock Crushers



The Champion Portable Crushing Plant

Will make money for users because they will do more work at less cost for repairs than any other machines. Built in five sizes, from 75 to 300 tons daily capacity.

Complete Crushing Plants, including Elevators, Screens, Conveyors, Engines and Boilers, designed and installed.

Catalogue costs nothing. A large calendar free to those who mention this paper.

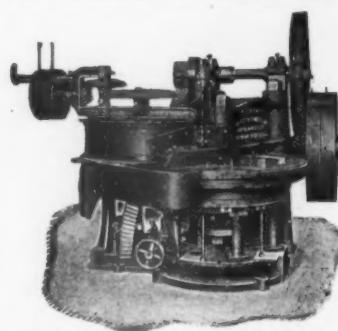
Address

**The Good Roads Machinery Co.**

KENNETT SQUARE, PA.

### The American Sandstone Brick Machinery Company,

SAGINAW, MICH.



Improved Saginaw Rotary Presses are now being built right or left hand, with extra table for making face and fancy brick, on which double pressure is exerted. Our patented brush does the work of one man, and keeps the plunger plates clean.

DON'T confuse our practical system with the so-called Scientific Systems. We confine ourselves to the manufacture of machinery for making brick from sand and lime; installing the complete plant, starting and operating at our expense until at least 100,000 brick are made before asking for a settlement.

Our Plants are installed under the supervision of practical engineers who know how Sand-Lime Brick should be made, and can be made.

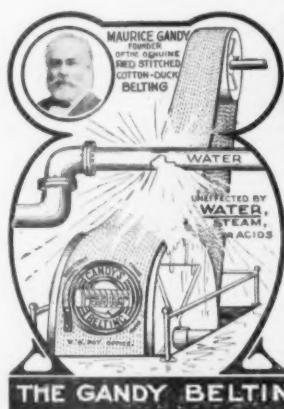
We have practical plants running successfully, to show to prospective investors.

#### We are Not Scientists.

We produce results, because we are the oldest practical Sand-Lime engineering company doing business in the United States, and we defy contradiction. Incorporated April 1902.

## THE GENUINE GANDY

The Quarryman's Belting



MAURICE GANDY  
FOUNDER OF THE GENUINE  
RED STITCHED  
COTTON-DOCK  
BELTING

WATER  
UNFECTED BY  
WATER,  
STEAM,  
ACIDS

THE GANDY BELTING CO. BALTIMORE, MD.

## HOWELL'S Celebrated Ball Bearing Heavy Geared Post Drills

For boring anything that  
an Auger will penetrate.

*Awarded Gold Medal, St. Louis.*



We make 40 different styles machines run by Hand, Compressed Air and Electricity for boring Fire Clay, Coal, Rock, Rock Salt, Gypsum and Plaster Rock. Send to day for our handsomely Illustrated Catalogue.

**HOWELL MINING DRILL CO., PLYMOUTH, PA., U. S. A.**  
(ESTABLISHED 1878.)

### A Tempered Steel Jaw Plate for Blake Type Crushers



Canda Tempered Steel Crusher Jaw Plate

Patented March 31, 1908

### CHROME STEEL WORKS CHROME, N.J., U.S.A.

FORMERLY OF BROOKLYN, N.Y.

**C** The Canda Tempered Steel Jaw Plate for Blake Crushers is composed of Forged and Rolled Chrome Steel Bars, cast-welded and also mechanically interlocked into a backing of tough steel—and the wearing face is tempered to extreme hardness. We are equipped to supply both corrugated and smooth face plates for all sizes and makes of Blake Crushers.

**C** The Canda method of cast-welding forged and tempered steel bars into a mild and tough Steel Backing, is adapted also to the construction of Cone Heads for Gyrotary Crushers, Segments for Corrugated Rolls, etc., etc.

**C** Our products in this line are sold with our special guarantee that they *will wear longer, give better satisfaction and, at our price, prove more economical than any others now on the market.*

Send for Descriptive Pamphlet—

J. F. Spellman, 202 Century Building, Denver, Colo.

Represented by  
George T. Bond, Easton, Pa.

George W. Myers, San Francisco, Cal.

Tell 'em you saw it in **ROCK PRODUCTS**.

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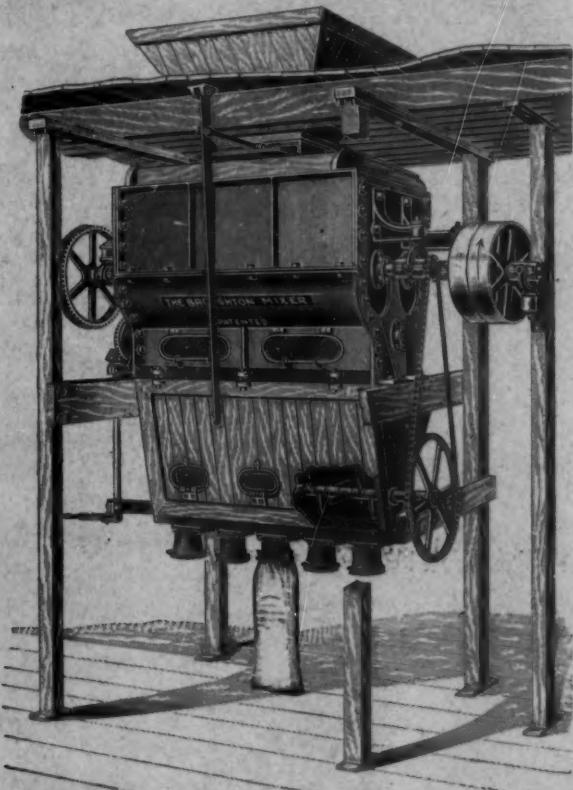
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The most thorough and efficient Mixers of Plaster, Cement and Dry Materials. Send for Circular.

**W. D. DUNNING, Water St., Syracuse, N. Y.**



### JEFFREY "Century" Rubber Belt Conveyers

for handling clay, stone, coal, gravel, sand, material in package or other forms.

Complete Mine Equipments, Electric Locomotives, Coal Cutters, Screens, Drills, Crushers, Pumps, Fans, Cages, Hoists, Etc.

Write for Catalog Series Ic, and mention subjects in which you are especially interested.

**The Jeffrey Mfg. Co.**  
COLUMBUS, OHIO, U. S. A.

NEW YORK  
PITTSBURG  
KNOXVILLE

CHICAGO  
DENVER  
ST. LOUIS

BOSTON  
CHARLESTON  
MONTREAL

## Sand-Lime Brick Machinery

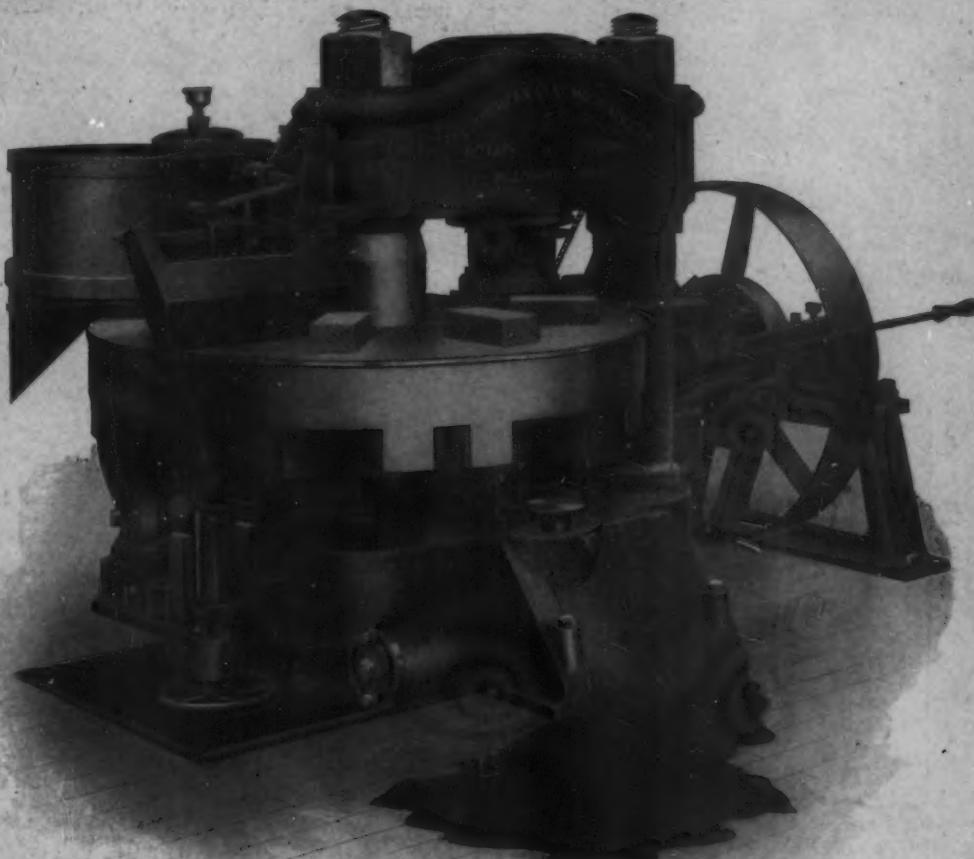
OUR Sand-Lime Brick Machinery is at least a little better than any other. We have testimonials to show it. We build it all in our own factory and are sure of its quality. We are the only firm doing this. We will design and equip your entire plant or will sell you parts of your equipment. Our catalog describing and illustrating our full line will be sent upon request.

We also build a full line of machinery and appliances for making Clay Products, Cement and Pottery, Dryers and Dryer Apparatus.

Everything we sell we make. We therefore know its quality to be right.

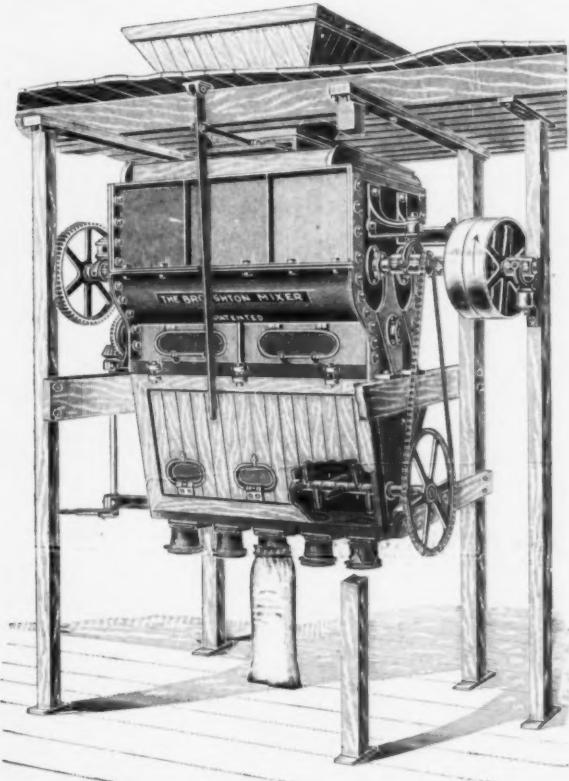
### The American Clay Machinery Company

**WILLOUGHBY, OHIO, U. S. A.**



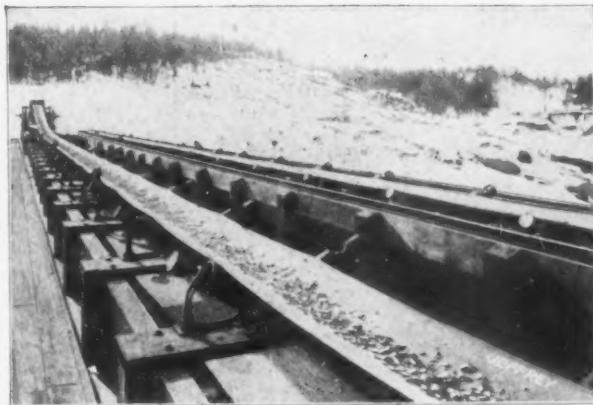
Tell 'em you saw it in ROCK PRODUCTS.





The most thorough and efficient Mixers of Plaster, Cement and Dry Materials. Send for Circular.

**W. D. DUNNING, Water St., Syracuse, N. Y.**



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for handling clay, stone, coal, gravel, sand, material in package or other forms.

Complete Mine Equipments, Electric Locomotives, Coal Cutters, Screens, Drills, Crushers, Pumps, Fans, Cages, Hoists, Etc.

Write for Catalog Series 1c, and mention subjects in which you are especially interested.

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CHICAGO  
DENVER  
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## Sand-Lime Brick Machinery

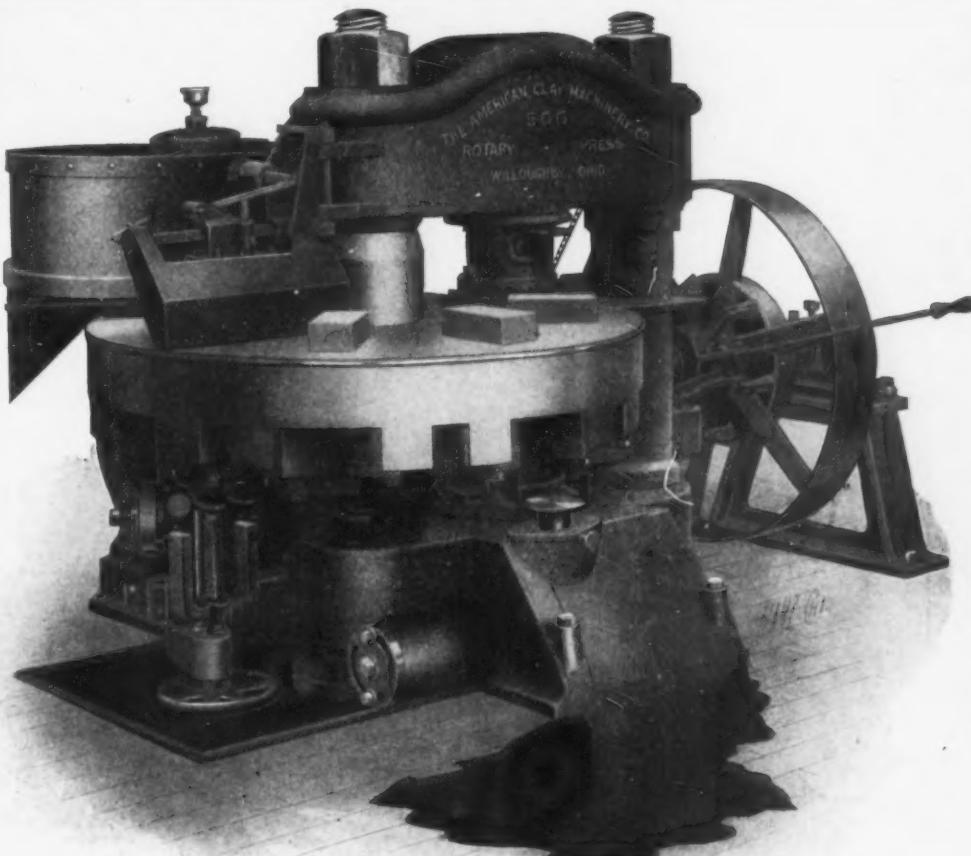
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We also build a full line of machinery and appliances for making Clay Products, Cement and Pottery, Dryers and Dryer Apparatus.

Everything we sell we make. We therefore know its quality to be right.

### The American Clay Machinery Company

**WILLOUGHBY, OHIO, U. S. A.**



Tell 'em you saw it in ROCK PRODUCTS.

WE BUILD  
CARS  
FOR



QUARRIES,  
MINES,  
CEMENT  
WORKS  
AND  
GENERAL  
USE



No. 277  
Steel Mines and Quarry Car



No. 145-C  
Pressed Steel Top, Ball Bearing  
Turntable; Patented

SWITCHES,  
FROGS



RAIL,  
TURNTABLES

THE ATLAS CAR & MFG. CO.  
CLEVELAND, OHIO.

## 350,000 Cubic Yards of Concrete

This vast quantity of concrete was used in the construction of the great McCall's Ferry Power Plant on the Susquehanna River. The mixing plant was the largest ever established in this country, having a capacity of 2,000 cubic yards per day of ten hours. To ensure durability of construction in this costly engineering work the company used "GIANT" PORTLAND CEMENT, Manufactured by the

American Cement Co.  
PHILADELPHIA

## ARE YOU GOING TO BUILD?

No matter what kind of a structure you contemplate building, it will pay you to post yourself on the advantages of concrete construction made with

Daily  
Capacity

ATLAS  
PORTLAND CEMENT

Over  
40,000 Barrels



A concrete building means protection from fire, vermin and decay. It is cool in summer and warm in winter; requires no paint or repairs, yet permits of pleasing architectural effects and color schemes. In most cases you will find concrete construction the least expensive in the beginning and in all cases the cheapest in the end.

The success of concrete construction depends largely on the quality of the cement used. **ATLAS** is the highest grade of Portland Cement manufactured.

This Company makes but one quality—the same for everybody.

Tell your architect to specify **ATLAS**.—Ask your dealer for it. You will know it by the Trade-Mark.

Building Books FREE on request. As a guide to prospective builders we have published the following books which will be sent FREE on receipt of postage.

Concrete Country Residences. Postage 25 cents.

Concrete Cottages. Postage 1 cent.

Concrete Construction about the Home and on the Farm. Postage 4 cents.

Reinforced Concrete in Factory Construction. Postage 10 cents.

**THE ATLAS PORTLAND CEMENT COMPANY**  
DEPT. U

30 Broad St., New York

Tell 'em you saw it in **ROCK PRODUCTS**.